

MISSION RULES

GAME RULES
PARIS, FRANCE
2020

PREPARED PAR DTDA Games

APPROVED PAR Hugo & Maxime Lisoir It is in the shoes of a Spacecraft Mission Director, that you will develop your own rocket. Do what it takes to win this new age of space entrepreneurship, the «New Space». Several tasks will await you, recruit Engineers, design Technologies, and build your rocket hoping to launch this mass of several tons more than 100km from the ground, beyond the Earth's atmosphere.

The conquest of the skies will require time, a wise management of your Engineers and funds invested in this project. You will also have to keep an eye on your competitors, who will do anything to achieve this feat before you do.

CONTENT OF THE BOX

1.0	CREDITS CARDS	50
2.0	ENGINEERS CARDS	24
3.0	TECHNOLOGY CARDS	10
	3.1 FIRST STAGE	28
	3.2 UPPER STAGE	24
	3.3 PAYLOAD	24
	3.4 R&D	28
4.0	INVESTORS CARDS	9
5.0	MISSIONS CARDS	9
6.0	SPACECRAFT MISSION DIRECTOR CARDS	9
7.0	PLAYER BOARD	5
8.0	LAUNCH PAD BOARD	5
9.0	HELP CARDS	5
10.0	DOCKING TOKENS	36
11.0	12-SIDED DICE	1
12.0	RULES BOOKLET	1

GAME OVERVIEW

As Mission Director, you must complete the space program assigned to you. Recruit your Engineers, design Technologies, and build the rocket to win successful contracts. Become a legend by being the first to achieve the goal that will make you a visionary gone down in history.



- 1. Mission Director's Authority
- 2. Mission Director's name
- 3. Director's Nation
- 4. Credit gain per turn (quarter)
- 5. Credit gain per successful launch
- 6. Director's Unique Docking Sequence

- Actions (1 action per round)
- 7. Cost in credits to recruit 1 Engineer
- 8. Credit gain by sale of Technology
- 9. Director's unique Specialty, available once per game
- 10. Specific intervention of the Nation

COMPOSITION OF AN ENGINEER CARD



Reduce by @ 20,000 (3)

- 1. Engineer's name
- 2. Engineer's authority
- 3. Engineer's unique Specialty
- 4. Gain when recruited

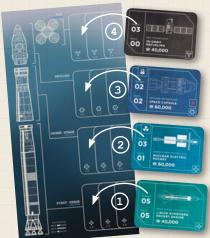
(only from mission 4)

Limit of 5 Engineers in hand. It is possible to discard Engineer cards from one's hand only when recruiting new Engineers during the Administration phase.



- PAINTER OF SET O
- 1. Location of the Mission Director
- 2. Reserve of Technology Cards
 (limit of 9 Technologies)
- 3. Docking tokens
 (limit of 3 per color type)
- 4. Engineers' actions during Planning phase

COMPOSITION OF THE LAUNCH PAD BOARD



- 1. First Stage Technologies
 built(3 cards limit)
- 2. Upper Stage Technologies
 built(3 cards limit)
- 3. Payload Stage Technologies
 built(3 cards limit)
- 4. R&D Technologies
 built(3 cards limit)



- 1. Investor's name
- 2. Brand values
- 3. Gain in credits for the success
- of the objective
- 4. Objective condition for success

When a player fulfills an Investor's objective, he takes the Investor card and places it next to his player board. A new card is revealed so that there are always 2 Investor cards available.

The objective of an Investor can only be fulfilled once.

Only the player who has the Investor card can complete the 2 objectives of the card, he can achieve them in the order of his choice. When the 2 objectives are fulfilled, the Investor card is permanently discarded from the game.

COMPOSITION OF A TECHNOLOGY CARD



- 1. Type of Technology
- Technology's name
- 3. Construction cost
- 4. Thrust delivered
- 5. Mass
- 6. Construction feature
- 7. Gain on acquisition
- First Stage Technology
- Upper Stage Technology
- O Payload Technology
- ▼ R&D Technology

MULTIPLAYER MODE

GAME SET-UP



PLAYERS PLACEMENT

Sit around the playing area and place a player board and a Launch pad Board in front of each player.



PLACEMENT OF TECHNOLOGY CARDS

Place the Technology cards of the 4 types on the table: First Stage (a.), Upper Stage (b.), Payload (c.) and R&D (d.). Shuffle each type of Technology and form 4 face down piles.

PLACEMENT OF ENGINEERS AND INVESTORS CARDS

Shuffle the Engineer cards, and form 1 face down pile (e.). Do the same with the Investor cards (f.).

Reveal 2 cards from the top of the Investor pile and place them to the side of the playing area.

PLACEMENT AND DISTRIBUTION OF CREDIT CARDS

Each player receives \$\frac{140,000}{2}\$ at the start of the game. Form piles with the 4 remaining types of Credit cards (g.).



STARTING A GAME

MISSION SELECTION

The players agree on the Mission to complete, it cannot be changed during the game. See the Missions Chapter for the duration and difficulty of each Mission.

MISSION DIRECTORS' SELECTION

Each player draws 2 Director cards, and keeps the Mission Director of his choice by placing it on his player board. Unchosen Directors are discarded face down.

Note: For 5-player games, draw only one Mission Director card per player.



RECRUITMENT OF THE ENGINEERS TEAM

The players take turns drawing 3 Engineer cards, respecting the decreasing order of authority of the Directors. The player can decide to keep the Engineers of his choice by paying \$\frac{20}{2}\$ 40,000 to the Bank for each Engineer selected. Engineers not recruited are discarded face down under the Engineers deck.

RIVERS OF TECHNOLOGY

Reveal the first 3 cards of the First Stage, Upper Stage and Payload Technologies.



CAME OVERVIEW

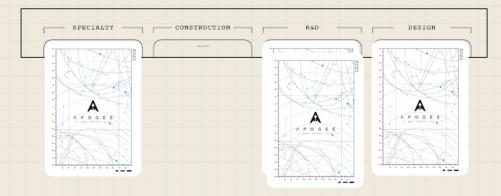
The game is played turn by turn, each round corresponds to a quarter in the chronology of the game. Each turn consists of 3 phases that the players will perform simultaneously. Here are the 3 phases to follow:

- A. **Planning phase:** assignment of an action to Engineers
- B. Launch phase: launch your rocket (if built)
- C. Administration phase: collection of Credits and strategic choice of the Director

A. PLANNING PHASE

All players will place each of their Engineers face down on one of the 4 actions available on the player board.

- · Specialty: activate the specialty of the Engineer
- Construction: build a Technology in reserve by paying the construction price
- R&D: draw an R&D card
- Design: draw a Technology card from the river of your choice



Note: you can place as many Engineers as you want on the actions. It is not mandatory to assign an action to all of your Engineers, in which case the Engineer card left in your hand has no effect.

After all players have placed their Engineer cards, the planning phase is resolved.

SPECIALTIES RESOLUTION

All Engineer cards placed on the Specialty action are revealed. The Specialties of each Engineers are carried out respecting the decreasing authority of Engineers (from the highest authority to the lowest).

The specialty of an Engineer can be immediate or valid throughout the round (information indicated on the card). For more details refer to the Specialties section.

Example: Suzanne placed 2 Engineers on the Specialty action, and Pedro none. Suzanne reveals her 2 Engineers cards Carlotta Pelterie (6.8) and Sebastian Von Braun (8.4). She begins by activating the specialty of Sebastian Von Braun who has a greater authority, and immediately draws 1 R&D card. Then activate Carlotta Pelterie's specialty by removing a competitor's Engineer from the Design action.



Note: Technologies acquired using a specialty can be built in the same round.

If no Engineer is on the Specialty action, go directly to the Construction resolution.

CONSTRUCTIONS RESOLUTION

Engineers placed on the Construction action are revealed. The player can build as many Technologies as Engineers present in Construction. The player must build a Technology in reserve by paying the cost in Credits indicated on the Technology card to the bank. He then places the Technology card in the corresponding slot on his Launch pad board.

If a player cannot fund a Technology card, the Engineer's action is lost. All players build simultaneously, Engineers' authority is not used for Construction.

Example: Suzanne has 1 Engineer on the Construction action. Pedro has 2 Engineers on Construction. All players build at the same time. Suzanne has \$\prec{1}00,000 and 1 Technology in reserve, she pays \$\prec{1}{2}40,000 to the bank to build the "Small Space Shuttle" Technology from her reserve and place it on her Launch pad board.

Pedro has \$80,000 and 2 Technologies in reserve, he pays \$80,000 to the bank to build his «Nuclear Pulse Propulsion» Technology, not having enough Credit left, he cannot build his second Technology «Solar Sail» of \$40,000, the action of his second Engineer is lost.

Note: a built Technology cannot be removed from a rocket.

If no Engineer is on the Construction action, skip ahead to the R&D resolution.

R&D RESOLUTION

Reveal the Engineers placed on the R&D action. The player's Engineer with the highest authority draws first, he draws as many R&D cards as he has Engineers placed on the R&D action.

Then switch to the next player with the Engineer with the highest authority from the remaining players. Continue this way until all players who have placed Engineers on the R&D action have drawn.

Once the R&D cards are drawn, the players choose a single card to keep in their reserve.

The other R&D cards are discarded face down on the bottom of the R&D Technology pile.

Example: Suzanne has 3 Engineers on R&D: Mark Faget (4.4), Patricia Jackson (3.6) and Kosuke Omi (2.0). Pedro has 2 Engineers on R&D: Carlotta Pelterie (7.2) and Chandresh Gokhale (0.8). It's up to Pedro to start because Carlotta Pelterie is the Engineer with the higher authority, he draws 2 R&D cards, then it is Suzanne's turn who draws 3 R&D cards. Both players keep a single card which they add to their reserve face up. The other cards are discarded.

Note: the acquisition of R&D Technology cards does not require credit.

If no Engineer is on the R&D action, go directly to the Design resolution.

DESIGN RESOLUTION

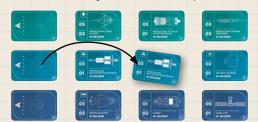
Reveal the Engineers placed on the Design action, add up the authority of the Engineers cards to determine which player will start Design.

In descending order of cumulative authority, players choose one Technology card from the river of their choice (First Stage, Upper Stage or Payload).

It is then placed in reserve on your player board, you can only select one per round.

Note: the acquisition of Design Technology cards does not require credit.

When a card is chosen by a player, a new Technology card from the corresponding stack is immediately turned over and placed in the river.





Example: Suzanne has 2 Engineers on the Design action: Maxim Chelomei (8.0) and Patricia Jackson (3.6). Pedro has 1 Engineer on Design: Diane Dyson (9.2). It's up to Suzanne to start, as her Engineers have the highest cumulative authority (8.0 + 3.6 = 11.6).

She selects the "Ion Thruster" Technology available in the Upper Stage river and add it to her reserve.

A new Upper Stage card is drawn to complete the river, the "Nuclear Thermal Rocket" card.

It's Pedro's turn, he chooses the "Thermal Nuclear Propulsion" card just drawn. A new Upper Stage card is drawn to complete the river.

Note: the acquisition of Technology cards during Design does not require credit.

Note: When an Engineer's action is resolved, the card returns to the player's hand.

Once all actions have been resolved, players move on to the Launch phase.

B. LAUNCH PHASE

During the Launch phase, players with a sufficiently robust rocket can launch. From Mission 4, it is also possible to use Docking tokens. A player can only perform one of the sequences per round during the Launch phase.

TAKE-OFF SEQUENCE

A player who has built a rocket on his Launch Pad board with at least 1 Technology of the following types: First stage, Upper Stage and Payload, can decide to launch his rocket.

To determine whether a built rocket performs well enough to launch, you have to calculate its performance.

For this add the thrust of each Technology built, as well as the mass of each Technology built.

Refer to the table on the right (or on the help card) for the performance. If the thrust or mass of a rocket is not shown on the table, the rocket cannot be launched.

Once the performance is known, refer to the second table to know the minimum number to make with the 12-sided dice for a successful launch.

Example: Pedro has a complete rocket and wants to make a Moon Launch. He starts by adding the thrust, then the mass of each Technology built from his rocket:

- First Stage: 2x Liquid Hydrogen Rocket Engine 5/4
- Upper Stage: Ion Thruster 2/1
- Payload: Big Space Shuttle 8/5
- R&D: Booster x4 4/2

Thrust: 24 Mass : 16

Performance: 1.8

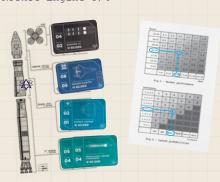
To get to the Moon, Pedro will have to roll a dice and score equal to 6 or greater.

Once the formula has been applied for each rocket to be launched, the player with the Director with the greatest authority rolls the dice

first. If the dice roll is equal or greater to the number indicated by the formula, the launch is successful and all of the Rocket Technologies are returned to reserve.

Otherwise, the launch is interrupted and the rocket remains intact. It is possible to build new Technologies on a rocket whose launch has been interrupted.

If neither player is able or willing to launch a rocket, the players move on to the Administration phase.



Thrust 33-36 4.5 3.6 2.8 2.1 1.7 1.4 29-32 4.0 3.2 2.5 1.9 1.5 1.3 25-28 3.5 2.8 1.6 1.3 1.1 2.2 21-24 3.0 2.4 1.8 1.4 1.1 1.0 17-20 2.5 2.0 1.5 1.2 1.0 0.8 13-16 2.0 1.6 1.2 0.9 0.8 0.6 9-12 1.5 1.2 0.9 0.7 0.6 0.5

> 25-28 Mass

On the ordinate the cumulative thrust, on the abscissa the cumulative mass.

13-16

17-20

21-24

LAUNCH PROBABILITY TABLE

Performance

7-8

9-12

3.0-3.9	3	4	4	4	4	4
2.5-2.9	4	5	5	5	5	5
2.0-2.4	5	6	6	6	6	
1.7-1.9	5	6	6	6		
1.4-1.6	6	7	7			
1.2-1.3	6	7				
1-1.1	7					
	LEO	GEO	Moon	Lagrangian Point	Asteroid	Mars

Distance

Performance on the ordinate, the targeted destination on the abscissa.

Note: if the number of cards in reserve exceeds the limit of 9 after a successful launch, the player must discard Technology cards face down, below the corresponding Technology pile, without recovering Credits.

DOCKING SEQUENCE

From mission 4, players can collect the Docking tokens indicated on the Engineers and Technology cards and use them during the Launch phase. The type of token to collect is indicated on the card. If the card does not have a symbol, no token is collected.



- Engineer card: collect the Docking token indicated at the top right of the card when the Engineer is recruited during the Administration phase only. An Engineer who changes hands does not produce a Docking token.
- **Technology Card**: collect the Docking token indicated at the bottom right of the card during its first acquisition only. With a Specialty you can collect Docking tokens on its first acquisition. Technology that changes hands does not produce a Docking token.

Add the collected Mooring tokens to the player board. The limit of Mooring tokens on the player board is 5, it is not possible to discard a Mooring token during the game. If the limit is reached the player does not collect any additional token.

USE OF DOCKING TOKENS

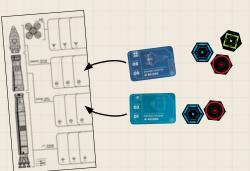
With the combination of Docking tokens you can to perform 2 distinct actions. Each player can only perform one action from the Docking sequence:

- Build a Technology from your reserve
- · Dock to a celestial object

BUILD A TECHNOLOGY

The player can use 2 tokens of different types to build a Technology of less than 40,000 from his reserve, immediately and for free.

The player can use 3 tokens of different types to build Technology from more than 260,000 from his reserve immediately and for free.



DOCK TO A CELESTIAL OBJECT

The player can use his tokens to dock his rocket to a Celestial object, the combination is specific to each destination and Mission Director. The combination is shown on the Director's card. Docking necessarily occurs after the rocket has lifted off on a previous lap. A rocket may remain for several rounds awaiting Docking.



During the sequence, it is possible to exchange 2 Docking tokens of the same type, for one Docking token of the type of your choice. There is no trade limit during the Docking phase.

If neither player is able or willing to perform the Take-off sequence and the Docking sequence, the players proceed to the Administration phase.

17

During the Administration phase, players will collect the funds for the round, and perform one action with their Mission Director.

COLLECTION OF QUATERLY EARNINGS

Each player collects the funds for the round indicated on their Director card. These funds are determined by the Nationality of the Mission Director. They are added to the player's hand and visible to everyone.



FUNDRAISING FROM INVESTORS

Players who have fulfilled an Investor's objective collect funds corresponding to the completed goal. Funds for an objective can only be collected once during the game.

MISSION DIRECTOR ACTION

In descending order of authority, players will choose one action, from the following actions:

- Recruit an Engineer for \$\text{\$\pi\$40 000}\$: the Engineer card is drawn from the Engineer pile face down.
- Sell Technology cards: the player sells one or more unbuilt Technology cards from his reserve to the Public Market for the price indicated on the Director's card. Each card sold brings in the funds indicated on the Director card which are added to the player's hand.
- · Activate the Director's Specialty: the player can only activate the Director's special skill once in the game. Each Director has a different Specialty indicated on his card.
- Activate the intervention of your Nation (only from Mission 4): the player can activate the intervention of his Nation once per round. Each Nation has a different intervention indicated on the Mission Director's card.

Example: Suzanne has Mission Director Harper Tompkins (Authority of 6) and Pedro has Yelena Tereshkova (Authority of 4). Suzanne starts playing because she has the Mission Director with the highest authority, she chooses to sell 2 Technology cards from her reserve to the Public market and receives \$\$40,000 from the Bank. Pedro decides to use his Mission Director's Specialty which allows him to acquire a Technology of the River which he adds to his reserve. Pedro will no longer be able to use his Director's Specialty during the game.

The player (s) who succeed in the main Mission during the same round are declared the winners.

SOLO MODE

COMING SOON

TECHNOLOGIES FEATURES

FIRST STAGE

Nuclear Pulse Propulsion: only compatible with other «Nuclear pulse propulsion» First Stage.



Laser propulsion: only compatible with other «Laser propulsion» First Stage.

SSTO vehicle: it is not possible to build other First Stage or Upper Stage Technologies with an SSTO vehicle.

UPPER STAGE

- O Ion Thruster: only compatible with other «Ion Thruster» Upper Stage.
- Nuclear Rocket: only compatible with other «Nuclear Rocket» Upper Stage.

PAYLOAD

Manned Flight: add a module compatible for the number of astronauts indicated on the icon. It is possible to accumulate several Technologies with the characteristic «Manned Flight».

▼ R&D

Manned Flight: add a module compatible for the number of astronauts indicated on the icon. It is possible to accumulate several Technologies with the characteristic «Manned Flight».



Aerospike engine: only compatible with «Liquid Rocket Engine» First Stage.

Heavy Version: double the thrust of First Floor Technologies. Only one "Heavy Version» can be built per rocket.

Reusable Launch System: First Stage Technologies are not destroyed after a launch.

MISSIONS

DESCRIPTION

LEVEL: EASY DURATION: 10 MIN.

1 Training: Make 1 successful launch into LEO

LEVEL: EASY

DURATION · 20 MIN

2 Make 2 successful launches

LEVEL: EASY

DURATION : 30 MIN.

3 Make 1 launch into GEO with a reusable rocket, with 2 astronauts

LEVEL: INTERMEDIATE

DURATION : 20 MIN.

4 Make 2 successful launches with 2 different First Stage Technologies

LEVEL: INTERMEDIATE

DURATION : 40 MIN.

5 Complete 2 Investors' objectives of level 2

LEVEL: INTERMEDIATE

DURATION : 55 MIN.

6 Make 1 successful human space launch with a thrust of 29 or more

LEVEL: EXPERT

DURATION : 55 MIN.

7 Drop 2 satellites on the Asteroid

Note: it is possible to achieve this mission with just one flight!

LEVEL: EXPERT

DURATION : 60 MIN.

8 Make 2 successful human space launch to the Moon with 4 astronauts

LEVEL: EXPERT

DURATION : 90 MIN.

9 Make 1 successful human space launch to Mars with 3 astronauts

MISSION 4 TO 9

From Mission 4, players can use the Nation Intervention during the Administration phase. Each of the 3 Nations of the game may intervene in favor of the companies of the Mission Directors.

MISSION 7 TO 9

For destinations to the Moon, asteroid or Mars, players must complete the Docking sequence to successfully complete the mission. This is present on the Mission Director cards, and is completed by collecting Docking tokens throughout the game and by activating the sequence during the Launch phase following takeoff.

2.1

SPACECRAFT MISSION DIRECTORS

UNITED STATE OF AMERICA



Harper Tompkins

Retain all of your First Stage Technologies after a successful launch, 1 time during the game

• This skill should be used during the Administration phase following a successful launch.



Liam Van Horn

BLAZE INFLUENCE

Buy randomly 1 Engineer from the competitor of your choice for \$60,000, 1 time during the game

• The competitor presents his Engineers hand face down.



Andrew Wingfield

RAW UNIVERSE

Sell a Technology from your reserve to the public market for №80,000, 1 time during the game

RUSSIAN FEDERATION



Mikhail Korolev

Draw immediately 2 R&D cards and keep them in your reserve, 1 time during the game



Yelena Tereshkova

METEOR GROUP

Acquire immediately a Technology from the river of your choice, 1 time during the game



Ekaterina Vostochny

SLOY ENERGIYA

Build immediately a Nuclear Technology from your reserve for free, 1 time during the game

• Ekaterina can build a First Stage or an Upper Stage Nuclear Technology.

PEOPLE'S REPUBLIC OF CHINA



Yang Jinmei

OPAL SYSTEM

Acquire a Technology from the competitor's reserve of your choice, 1 time during the game

• The player chooses which Technology he wishes to seize from a competitor's reserve.



Zhang Kang

DRAGON FLIGHT

Prevent another competitor from building during the next round, 1 time during the game

• This Specialty should be used during the Administration phase preceding the target player's Planning phase.



Shuguang Jun

CHIH SUNG-TZU 3

Prevent any launch during the next round, 1 time during the game

- This skill should be used during the Administration phase preceding the future launches.
- Shuguang Jun will not be able to launch a rocket as well.

ENGINEERS' SPECIALTIES



Carlotta Pelterie

Remove 1 competitor's Engineer from Design for this round

• The player can immediately remove a competitor's Engineer from the Design action. The Engineer returns to the hand of his Mission Director.



JOZSEF OBERTH

Reduce by \$20,000 the total cost of Technology Construction for this round

• This specialty applies to all players who will build during this round.



Chandresh Gokhale

Replace immediately one line of Technology in the river

• The player discards cards from a Technology river (First Stage, Upper Stage or Payload) and places new cards on the river.



Katalina Tsiolkovsky

Reduce by 2 the chance of a successful launch for this round

- This specialty applies to all players who will launch their rockets during this round.
- During the Launch phase, the player subtracts 2 from the number he obtains from the launch probability table. His dice roll must then be equal or greater to the new number obtained.



SEBASTIAN VON BRAUN

Draw immediately 1 R&D card

• The player places the R&D card drawn in his reserve.



Patricia Jackson

Increase by \$40,000 Investor's gain, for this round

• This specialty applies to all players who will complete an Investor's objective during this round.



MARK FAGET

Reduce rocket mass by 1 for this round

- This specialty applies to all players who will launch their rockets during this round.
- The player subtracts 1 from the total mass of his rocket before calculating its performance.



DIANE DYSON

Increase by 1 the thrust of Nuclear First Stage for this round

- This specialty applies to all players who will launch their rockets during this round.
- The player adds 1 to the total thrust of his rocket by "Nuclear Pulse Propulsion" built before calculating its performance.



KATHY JOHNSON

Increases by 1 the chance of a successful launch for this round

- This specialty applies to all players who will launch their rockets during this round.
- During the Launch phase, the player adds 1 to the number he obtains from the launch probability table. His dice roll must then be equal or greater to the new number obtained.



MAXIM CHELOMEI

Increase by ₹20,000 the sale price of a Technology to the public market, for this round

• This specialty applies to all players who will sell Technology in the public market during this round.



Pahal Chawla

Replace immediately an Investor card

• The player discards one of the 2 Investor cards from the side of the playing area, putting the card back under the Investor pile. A new Investor card is revealed.



KOSUKE OMI

Remove 1 competitor's Engineer from R&D for this round

• The player can immediately remove a competitor's Engineer from the R&D action. The Engineer returns to the hand of his Mission Director.

THANK YOU

Marine, Suzanne et Pedro

Game designed by:
Sergio Matsumoto

Co-created with:
Hugo & Maxime Lisoir

Illustrated by:

Manon Potier

Discover our projects: www.dtda.fr

Send us love mail: contact@dtda.fr

Keep track of new developments:

- Facebook: www.facebook.com/DTDAGames/
 - Twitter: @DTDA_Games
 - Instagram: @dtda_games

Apogee is a game from the indie game studio: $\label{eq:decomposition} {\tt DTDA\ SAS}$

35 rue des Chantiers 78000 Versailles, France All rights reserved.