

# LUNA

---

A I R C R A F T

*"For all nations to reach for the Moon and beyond..."*

*"We, the aeronautic and aerospace industries, are pleased to inform you that as of December 25<sup>th</sup> 2019, the company Luna Aircraft is a registered entity serving all of humanity to have a dream become reality: Earthlings civilizations as one happy planetary society!"*

Marina Rauni

**Luna Aircraft**

Chief Storytelling Officer



*Lunliner, Moon mission 2032*

Moon space programs for all nations!

**LUNA**   
A I R C R A F T

## SUMMARY

Introduction

Programme

Luna I UAV

Luna II PSV

EmDrive

Comparison

Business

EM R & D

Operation

Promotion



## INTRODUCTION



Luna Aircraft is an aerospace company developing “turn key” affordable space programs for all nations to engage in tourism and scientific missions to the Moon.

Luna Aircraft space programs provide crafts, facilities and training to cover the needs of a lunar mission:

- Spacecraft fleet propelled by electromagnetic technology.
- Spaceport facilities including Mission Control Room, Vessel Fleet Hangar, Training Camp, and Launching Pad.
- Moon flights operation training for controllers, pilots, stewardess, ground staff and technicians.

Luna Aircraft is an “asset light” company financing its operations by licensing the IP related to its space programs. Licensees as nations or industrial complexes are to use Luna Aircraft IP to either start their own space program, or boost their interests with an “outer-space touch!”



**LUNA**  
A I R C R A F T  
**PROGRAMME**

The development and manufacture of a fleet of Luna PSVs (Personal Space Vehicle) provide a low cost, safe and reliable transportation system to the Moon’s surface, for both manned and cargo missions. This will be enabled by the third Generation (3G) EmDrive propulsion technology produced over a programme which comprises six phases with a schedule as in Fig.1.

The first phase is the development of the Luna UAV (Unmanned Aerial Vehicle) to provide a demonstration of the lift capabilities of second generation (2G) superconducting EmDrive technology with 2G EmDrive comprising a superconducting EmDrive cavity without acceleration compensation. The Luna UAV is a development programme scheduled over 18 months for a budget of \$30M.

Programme Phases		Year						
		1	2	3	4	5	6	7
1	UAV development	■	■					
2	3G Head-start Work		■					
3	PSV development			■	■	■		
4	PSV Qualification						■	■
5	PSV Fleet manufacture						■	■
6	PSV Initial Operation							■

Fig.1

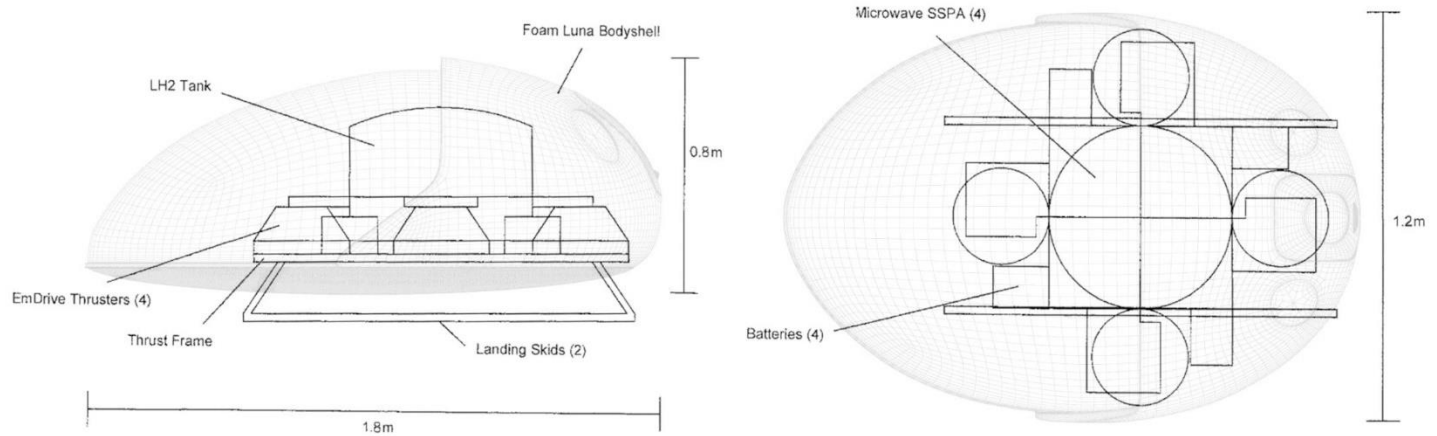
12 months into phase 1, it is proposed to start a short Head-start work package to demonstrate the principles of 3G EmDrive. This will be carried out using a linear air track to measure the Luna UAV engineering model EM thruster performance, under high acceleration conditions. Once the Luna UAV has completed a set of demonstration test flights, the Luna PSV development programme can start. This is estimated to take 3 years at a cost of \$600M (then \$300M/unit), resulting in a cargo flight to the Moon by 2027, and manned flight by 2029.



Luna Aircraft propulsion technology is the EmDrive developed by SPR Ltd. of the UK.

The Luna UAV (Unmanned Air Vehicle) model, will first be built to demonstrate the EmDrive engine in 2025. Its design is inspired by the Apollo 11 EMU helmet features, golden visor and white fabric, therefore associating itself with one of mankind's most memorable achievement.

- Mass = 62.5kg
- Flight time = 12 mins
- Max velocity = 11 mph
- Max acceleration = 0.005g
- Max range = 1.6 miles
- LH2 volume = 50 litres
- Batteries = 4X 24V 16Ahr
- Propulsion = 4X 500W 2G thrusters
- Frequency = 2.45GHz
- Mode TE211



# LUNA

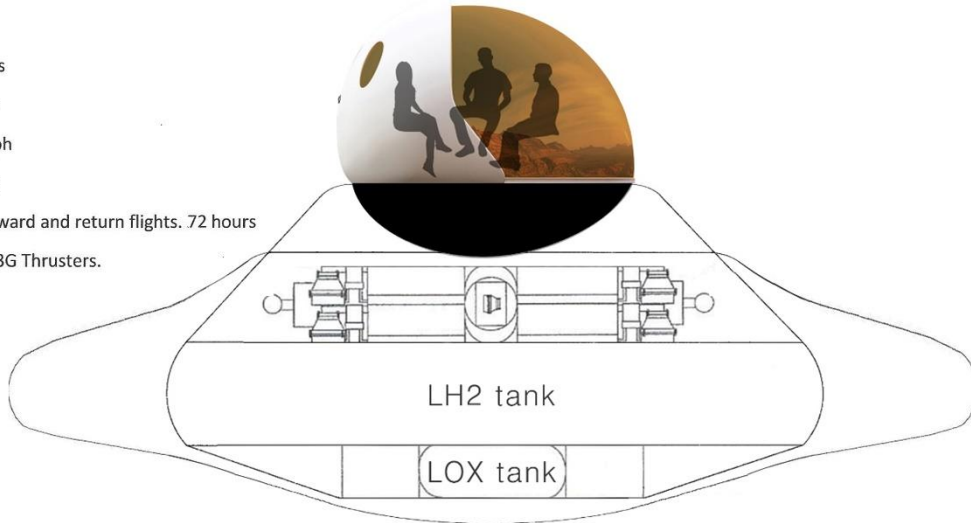
A I R C R A F T

## LUNA PSV

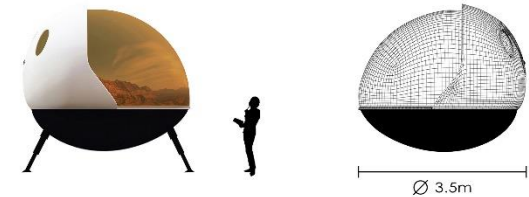
“Before the decade is over”, in 2029, on the 60<sup>th</sup> anniversary of Apollo 11, the Luna PSV (Personal Space Vehicle) model will present the EmDrive 2G Thruster engine able to propel a crew of 3 astronauts to the Moon surface in just 36 hours. Being propellant-less, silent, safe and therefore economically sound, the Luna Aircraft propulsion system is it!

With these exceptional performances and its “Two spacecrafts in one!” concept, the Luna PSV craft is to open the door to Moon missions for all nations!

- Mission. Reusable Manned Moon landing and return
- Payload. 3 Tonne manned capsule or unmanned cargo.
- Total launch mass. 12,945 kg
- Diameter 9m
- Height 6m
- LH2 volume 60,721 litres
- LOX volume 2,485 litres
- Max velocity 10,125 mph
- Max acceleration 0.01g
- Total Flight Time for forward and return flights. 72 hours
- Propulsion. 8x 4.25kW 3G Thrusters.



Luna ASV 2019

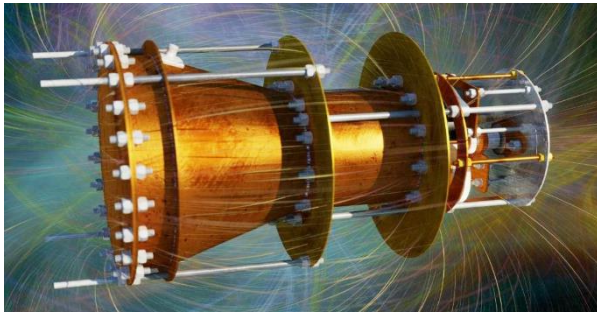




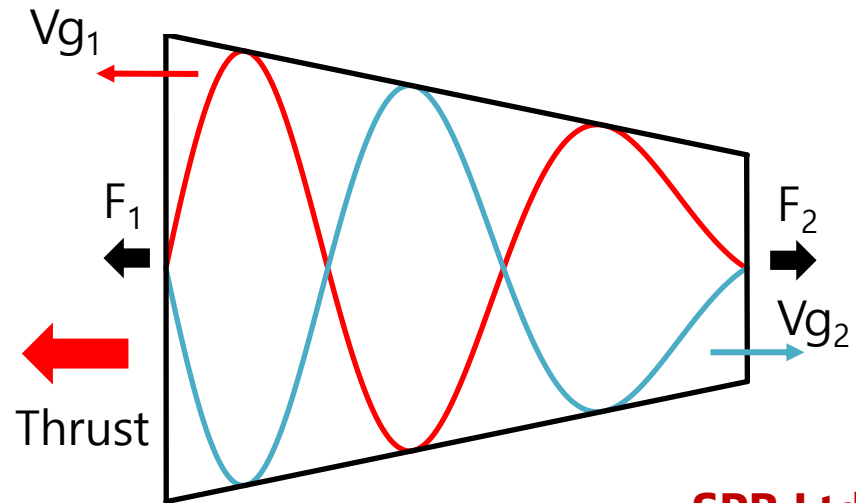
**LUNA**  
A I R C R A F T  
**EM DRIVE**

The EmDrive technology is the only electromagnetic propulsion system which has been peer-reviewed by NASA and the Chinese Space Agency, therefore giving it a scientific legitimacy which is essential to convince investors.

The EmDrive is a high frequency electrical energy directly converted to thrust. It is a resonant microwave cavity, shaped to obtain different group velocities at each end, and thus achieve a force difference as the EM wave reflects off each end plate.



Large end  $Vg_1$  → speed of light  
 Small end  $Vg_2$  → zero  
 Therefore  $F_1 > F_2$  & Thrust =  $F_1 - F_2$



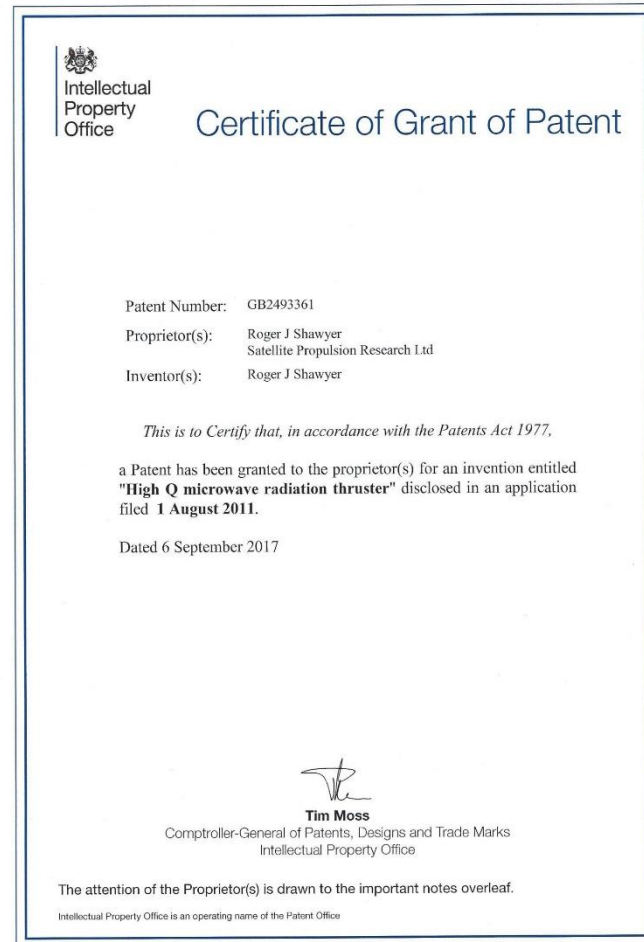
**SPR Ltd.**  
Satellite Propulsion Research



## EM DRIVE

Patented by British engineer Roger Shawyer, the EmDrive technology is officially acknowledged by mainstream science, and is being developed by many nations. Its electromagnetic, economical, nature has seen the EmDrive being officially, publicly, unnoticed by the space and aviation industries still depending on conventional, chemical, propulsion systems.

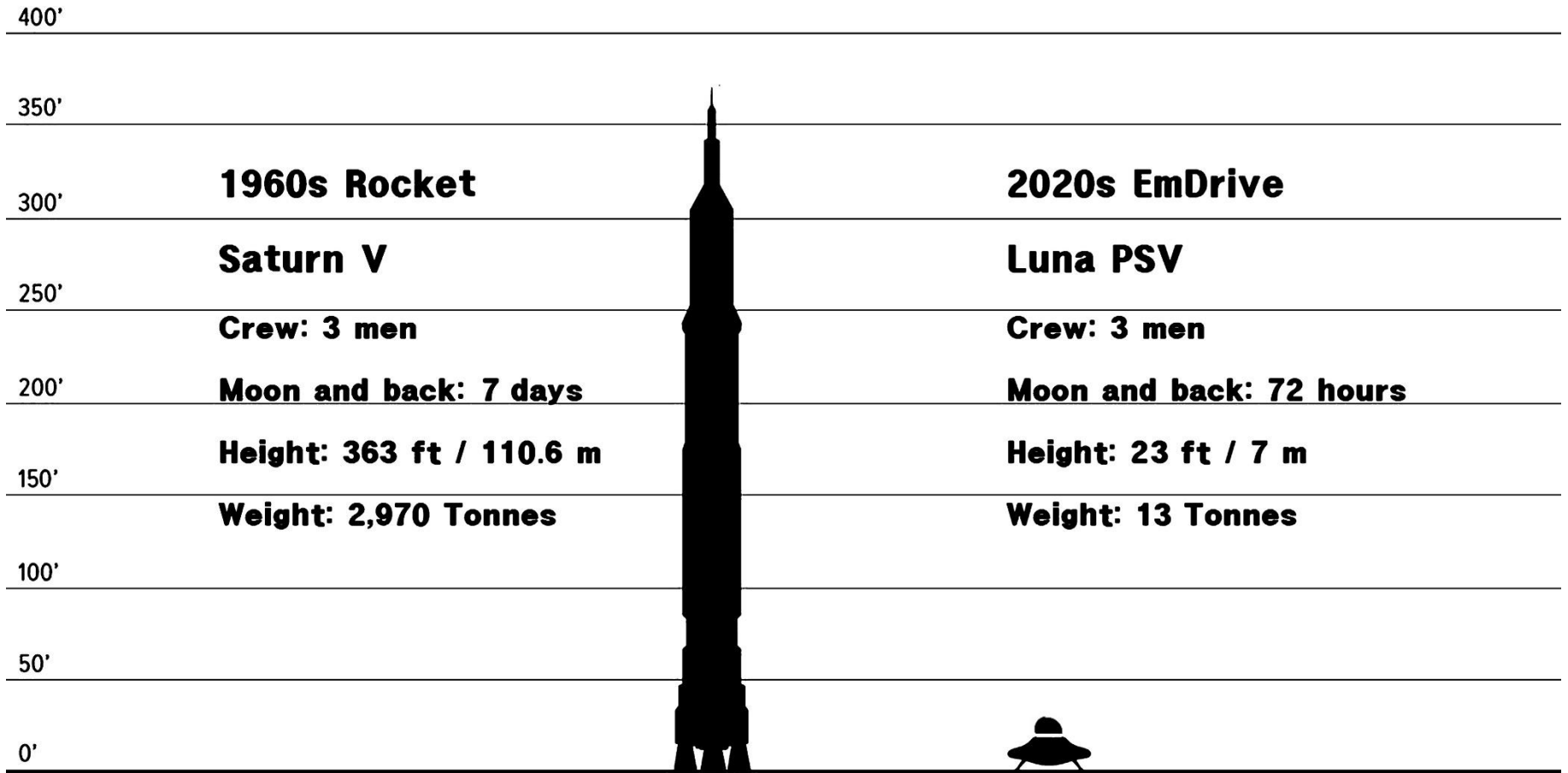
Luna Aircraft with SPR Ltd. offer now an aerospace alternative for all nations to venture into Moon space programs.

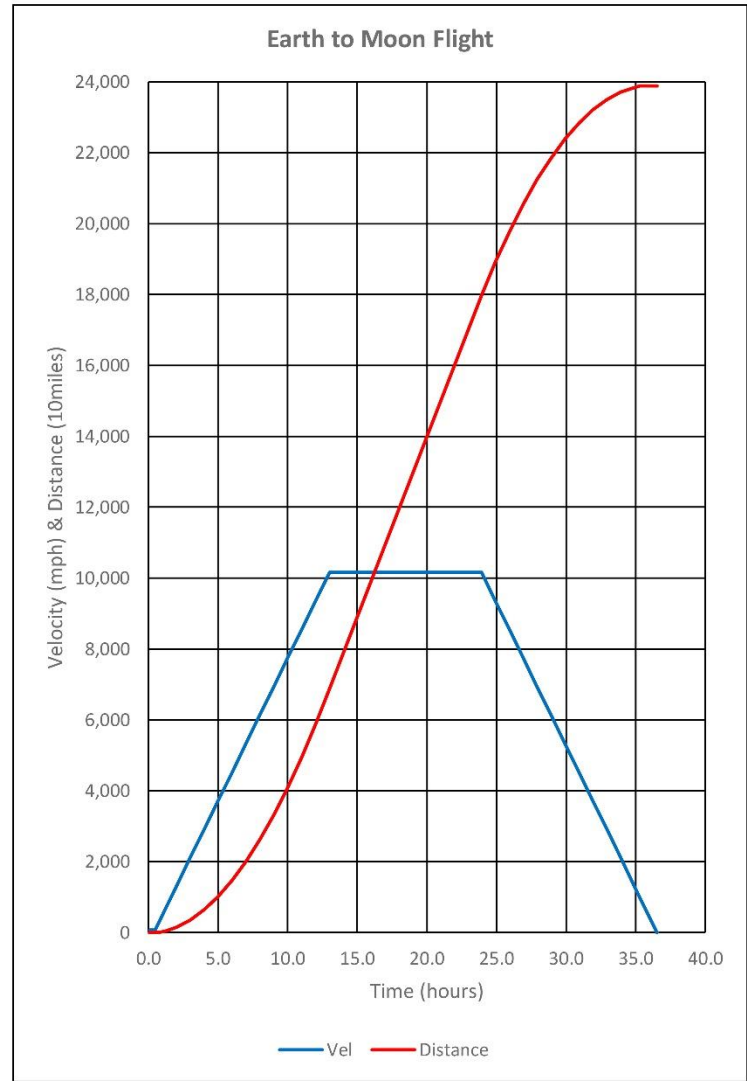
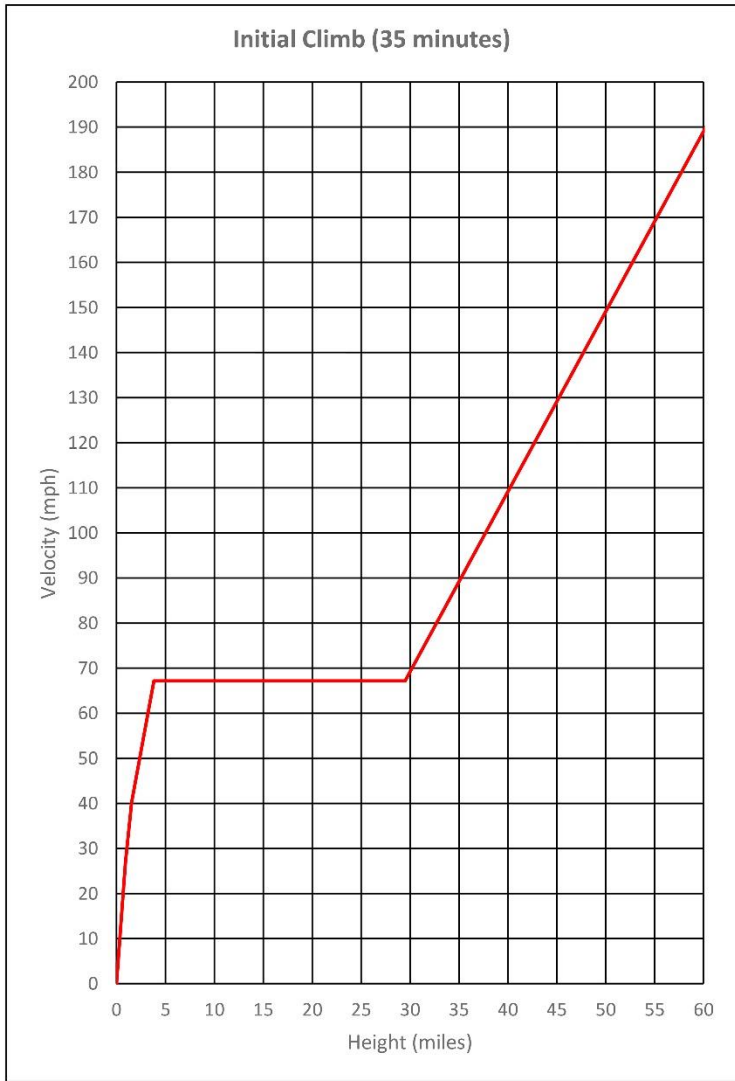




## COMPARISON

The Luna II PSV model allows a crew of 3 astronauts to travel to the surface of the Moon with performances announcing a new space era.







## BUSINESS

Space Program at  
**\$ 2 billions** for:

- Spacecraft fleet of  
**5 Luna II PSV**

- Facilities to support  
**1 Spaceport**

- Moon mission at  
**\$ 1,000,000**

Luna Aircraft business model is about providing nascent space nations with a “turn key” space program at a fraction of what it costs today when developed with conventional propulsion technologies. Such space program will include 5 Luna II PSV spacecrafts, 3 buildings hosting respectively the crafts maintenance area, the mission control room, and the training and resting astronauts facilities. The Luna Aircraft space program tag price of \$2 billions over a 3 years development will be funded over a number of years by the pre-sales of cargo or manned missions allowing respectively 300 tonnes or 300 astronauts to be sent every year to the surface of the Moon.

As there is no propellant nor moving part in this EmDrive propulsion technology, and as the Luna Aircraft vessels are 100% reusable as they experience very low structural stress, the re-launch and maintenance costs are low. These facts bring the budget of a trip to the Moon, for either 3 tons of cargo or 3 passengers, at \$1,000,000.

With such economical and environment friendly features, the Luna II PSV is the “new kid in space!” for all nations to benefit from.

**LUNA**  
A I R C R A F T  
**BUSINESS**

Luna Aircraft first target-market consists of small size nations with a high per capita income. Once the first space programs have been completed, all nations will be able to capitalize on the results of the lunar missions conducted by wealthier governments. Luna Aircraft is now initiating first contact with nations qualifying both on a financial standpoint.





**LUNA**  
A I R C R A F T  
**BUSINESS**

Aerospace experts in lunar type of missions contribute to the blueprint of a spaceport hosting maintenance hangars, a mission control room, and training facilities. The first Luna Spaceport will act as a show room for developing space nations to visit, and for Luna Aircraft to prepare its first Cargo Moon Mission by 2028.



*From planning and building for Moon missions... ... to launching and operating them.*



A I R C R A F T

BUSINESS

Staple  
Here

Oh!...!  
the Spaces  
We'll Go!

# LUNA SPACEWAYS

*The World's Most Fun Spaceline*

Class/Classe

FIRST CLASS / PREMIÈRE CLASSE

Name/Nom

BRIAN O' LEARY

Flight/Vol

APOLLO 11 60<sup>TH</sup> ANNIVERSARY

Departure Time  
Heure de départ

1400 UTC J-1

From/de

KENNEDY SPACE CENTER

Date/Date

20 JUL 2029

Arrival Time  
Heure d'arrivée

2017 UTC

To/Destination

MOON



Seat/Place

1



Happy 60<sup>th</sup> Anniversary!

Luna Aircraft introduces Luna Spaceways,  
*"The World's Most Fun Spaceline!"*





A I R C R A F T

## OPERATION

- Luna UAV EmDrive Public Flight - 2025
- Luna PSV Cargo Moon Mission - 2028
- Luna PSV Manned Moon Mission - 2029



A I R C R A F T

## PROMOTION

- "Luna Odyssey 2025" movie - Summer 2025
- "Chick Apollo" Animation TV Series trailer - Xmas 2025
- "LunApollo" Animation TV Series trailer - Xmas 2025
- Luna PSV event with Apollo 11 60<sup>th</sup> Anniversary - July 2029
- Luna PSV Xmas event - December 2029



LUNA 

A I R C R A F T

Engineering & Construction

LUNA 

A N I M A T I O N

Promotion

**EML**

Electro Magnetic Laboratory

R & D

LUNA   
*SPACEWAYS*

Business

LUNA   
S P A C E P O R T

Facilities



*Luna II, Manned Moon mission 2029*



**LUNA**   
A I R C R A F T

For information on Luna Aircraft space program write to  
[www.lunaaircraft.com](http://www.lunaaircraft.com)