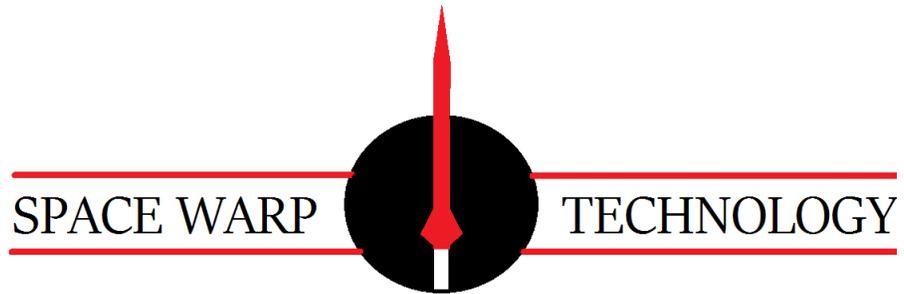


May 20, 2017

CONFIDENTIAL INFORMATION MEMORANDUM

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CONFIDENTIAL INFORMATION MEMORANDUM

Space Warp Technology, Inc.

177 Huntington Avenue, 17<sup>th</sup> Floor

Boston, MA 02115

617.304.5994

## **LEGAL NOTICE**

This report contains proprietary and confidential information on Space Warp Technology, Inc. and its Solid Motor Rocket/Hotel Project.

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For further information, please contact Arnold Roquerre

[aroquerre@spacewarptechnology.com](mailto:aroquerre@spacewarptechnology.com)

# EXECUTIVE SUMMARY

## 1.1 Project Overview

Space Warp Technology, Inc. (SWT) was founded in 2016 to build and launch safe, reliable, inexpensive and disposable rockets and spacecraft. SWT intent is to be to revolutionize transportation to space as the Ford Model T revolutionized ground transportation. Corporate headquarters are located in Boston, MA to capitalize on available talent from nearby universities and the large pool of highly trained workers. The company structure and focus on solid fuel engines which are safer, less complex Liquid fuel using Liquid Oxygen ensures that Space Warp Technology, Inc. will be in a position to build hotels and survival habitats in space at a much lower cost than any other aerospace company . Unlike other aerospace companies that require large numbers of highly trained engineers and support staffs to build and maintain complex liquid fuel rocket motors and rockets, SWT is designed to operate with a much smaller support staff. By focusing on producing inexpensive solid fuel rockets to build hotels and other habitats in space, Space Warp Technology investors can expect a solid return that exceeds the return from any other investment instrument within a reasonable time frame.

The projects SWT is seeking investors to fund are:

**Phase I**, goals are to develop and manufacture throwaway solid motor rockets. The rockets will be used by SWT to place commercial satellites in space, to build and run hotels in space and on the moon, and ferry customers, staff and supplies to and from the hotels.

**Phase II**, Space Warp Technology, Inc. will, using its' solid fuel rockets, build, staff, operate, and ferry customers to and from hotels the company builds in space and on the moon. The LEO Hotel will be the first hotel built in Low Earth. The facilities and engineered systems will be designed to grow as hotels are added in earth and lunar orbit and on the Moon. Disposable, relatively simple solid motor rockets that cost half as much as recoverable liquid fuel propulsion rockets will guarantee that the space hotels will be a profitable venture.

## 1.2 Financial Highlights

Projected income estimates for Space Warp Technology at the end of **Phase I** are a net profit range between \$30 million to \$50 million per rocket launch, capturing a minimum of 5 launches a year out of the forecasted 30 launch annual global demand. The 2015 FAA Annual Launch Forecasts and other rocket launch forecast reports project an average of 15 rocket launches a year by U.S. launch providers. By charging half the cost of the competition, Space Warp Technology, Inc. can realistically expect 5 launches a year, a third of the U.S. expected market. Minimum net income projections are \$150,000,000 per year. The cost estimates to maintain staff and facilities are estimated to come in at \$50 million or less per year. By the end of Phase II, the company expects most income and activities to focus on building and running hotels and survival habitats in space which will earn \$3 billion in annual revenue. There is enough demand

from private, commercial and government customers to keep a 12-room hotel 90% occupied for at least ten years, if not longer.

## PROJECT DESCRIPTION

### 2.1 Description of Industry



Figure 1

Liquid fueled rockets have been the main propulsion system used to place payloads into space by government and commercial launch vehicle providers around the globe. Solid fuel propulsion has not been the fuel of choice. Solid rocket motors have been perceived as lacking the controllability or thrust output that liquid fuel propulsion offers. New improvements and capacities developed within solid fuel propulsion technology have removed most of the differences, such that the few remaining differences are insignificant. China has been one of the first nations to capitalize on this change in

technology. The government of China has built a first-generation solid propulsion rocket (Fig. 1) to launch payloads into Low Earth Orbit (LEO) with the introduction of the Chang Zheng 11 (CZ-11). Recognizing the commercial and financial advantages of solid rocket motors over their liquid-fueled counterparts, a Chinese commercial firm, China Aerospace Science and Industry Corp (CASIC), was formed to build and launch the Kuaizhou-1 (KZ-1) rocket (Fig. 1), a commercial version of the CZ-11

Japan Aerospace Exploration Agency (JAXA) has developed a solid fuel propulsion rocket, Ipushiron Roketto-2 (Epsilon-2). JAXA designed the rocket to speed up launch preparation and minimize personnel and costs using new technologies and processes in solid fuel rocketry. Despite these efforts, the full potential of solid rockets used to launch small and large payloads cheaply and efficiently to Low Earth Orbits and Geocentric Earth Orbits has not been fully appreciated, yet. This gap in the acceptance of solid propulsion rocket motors is an opportunity for a company based in the United States to take market share as the first provider of inexpensive solid rockets to a growing aerospace industry looking for less costly access to space.

### 2.2 Project Master Plan

Phase I (2017- 2021), core staff will be brought on, all remaining open positions will be filled within 6 months. A building to house all staff required to bring to market an affordable heavy lift solid motor rocket within 48 months or less will be secured in the Boston area and secured with a 6-year lease. All local, state and federal government permits required to build, test and launch solid motor rockets with commercial and government payloads, including human passengers will

be obtaining and staff hired who have the required D.O.T. and other certificates required. The fabrication building will be located and built in Maine where the solid motors will be made and the rocket's airframes constructed using state of the art technology and new proprietary innovations of Space Warp Technology, Inc.

Phase II - (2022-2024), will raise capital to pay for the rocket launches needed to build the LEO Hotel in Low Earth Orbit. The LEO Hotel will be built with modular room units. The hotel will be operational, as soon as, the first room has been installed. All 12 rooms will be completed and fully operational by the end of 2024. Space Warp Technology, Inc. will build and use its' proprietary solid propulsion rockets to deliver hotel guests, staff and supplies to LEO Hotel and return departing guests and staff to Earth.

## **MARKET COMPETITION & PRICING**

### **3.1 Competition**

Liquid fueled rockets have been the main propulsion system used by countries around the world to lift payloads into space. Solid fuel propulsion has not been the fuel of choice, primarily due to the differences in power output and controllability of thrust between solid fuel propulsion and liquid fuel propulsion. New improvements and capacities developed have resulted in more powerful and controllable solid fuel propulsion, eliminating the advantages once enjoyed by liquid propulsion. In addition, solid fuel powered rocket motors are far less likely to explode during launch and require fewer short term and long term support facilities and staff. The Chinese government has been the first nation to capitalize on this change in solid rocket motor technology to build first generation solid propulsion systems to launch payloads into Low Earth Orbit (LEO) with the introduction of the Long March 11. A Chinese commercial company, China Aerospace Science and Industry Corp (CASIC), has recently been formed to launch the Kuaizhou-1 (Fast Vessel) rocket, a commercial version of the Long March 11 (Chang Zheng -11). Rockets propelled by solid propulsion will cut the cost of launching each kg of payload into orbit by 33% to 50% of liquid propellant powered commercial rocket launches by companies such as SpaceX, Ariane Aerospace and Blue Origin. Space Warp Technology will be able to underbid any liquid rocket motor launch no matter what the target orbit or payload size. With an inexpensive and reliable launch platform to build, operate and ferry guest to and from the LEO Hotel, Space Warp Technology Corporation will be the leader in the hospitality industry in space.

### **3.2 Market Forecasts**

The 2015 edition of "A Euroconsult Research Report, Satellites To Be Built & Launched By 2024 World Market Survey," "2016 State of the Satellite Industry Report," and The FAA's "2015 Commercial Transportation Forecasts" all agree that an estimated 1,400 satellites will be placed in various orbits over the next 10 years. Of the 1400 expected satellite launches expected, 75% will be government sponsored with the remaining 25% consisting of commercial launches. Of the \$255 billion in projected revenues, \$65.75 billion will be for commercial satellites. The 2015

Commercial Space Transportation Forecasts report projects that there will be 30 commercial rockets launches per year in the United States. The cost of each launch varies between \$100 million to \$150 million. For Phase II operations, we note that there are over 1,800 billionaires in the world and over 10,000 multi-millionaires who can afford the price of staying in the LEO Hotel for 4 to 5 days. The numbers of potential guests will be even greater in 8 years as economy of scale and innovation in rocket technology further reduces costs.

### **3.3 Unique Marketing Position**

A rocket engine that burns liquid propellant is significantly more complex and expensive than a solid motor. The facilities and equipment needed to build and maintain rocket engines that burn liquid rocket engines are much costlier than needed for solid rocket motors. Liquid rocket motors must handle super cooled liquid oxygen, pressurized fuel and LOX tanks to prevent the collapse of the tanks as they empty during flight, turbo pumps, and a myriad of electronics, wiring, valves and refrigerant tubing to control the flow rate and mix of LOX and fuel. The personnel and technical specialties required to build, operate and maintain liquid rocket engines are far greater than required of single use solid rocket engines.

By using state of the art solid rockets, Space Warp Technology, Inc. can cut launch costs in half versus the liquid-fueled competition, enabling us to launch a significant portion of the projected 30 annual launches in the United States. Just two launches in the first year of operation will recover investors' money. Of equal importance is that solid rocket engines require far fewer core staff and facilities, which translates to lower costs. By specializing in solid rocket motors, Space Warp Technology Corporation, can weather far larger swings in launch demands than a rocket launch company such as SpaceX, which uses reusable liquid propellant powered rockets. Simplicity of design also greatly reduces the failure rate, which reduces insurance rates and increases reliability. Reliability and lower costs positions Space Warp Technology Corporation to take the lion's share of commercial rocket launches.

## Financial Pro Forma Summary

### Phase I: Expenses (2018 – 2021)

Deliverables: By 2021 are one LEO flight and two GEO flights).

#### EXPENSES

Items	1 <sup>st</sup> Year	2 <sup>nd</sup> Year	3 <sup>rd</sup> Year	4 <sup>th</sup> Year	TOTAL
Propellant	2,000,000	4,000,000	12,000,000	24,000,000	42,000,000
Tech & Support	4,000,000	15,000,000	15,000,000	6,000,000	40,000,000
Office	200,000	200,000	200,000	200,000	800,000
Factory	500,000	500,000	500,000	500,000	2,000,000
Launch Site Fees		1,000,000	1,000,000	1,000,000	3,000,000
Legal & Permits	150,000	300,000	300,000	200,000	950,000
Proprietary Equipment	500,000	8,000,000	1,000,000	500,000	10,000,000
Equipment & Tools	2,000,000	3,000,000	2,000,000	500,000	7,500,000
Shell & Motors	5,000,000	8,000,000	9,000,000	7,500,000	29,500,000
Electronics	3,000,000	3,000,000	2,500,000	1,500,000	10,000,000
Insurance	500,000	1,500,000	1,500,000	1,500,000	5,000,000
<b>TOTAL</b>	<b>\$17,850,000</b>	<b>\$44,500,000</b>	<b>\$44,000,000</b>	<b>\$42,400,000</b>	<b>\$150,750,000</b>

Yearly net income before debt serving from 2022 on is projected to be \$75,000,000.

### Phase II: Expenses & Income (2021 – 2025)

#### Build, Place in LEO and Begin Operations of the LEO Hotel in 2025

#### SUMMARY

Debt service and interest will be retired over 8 years at 25% per year after the completion Phase I. Annual net income from commercial launches will be \$75,000,000. On completion of Phase II, the LEO Hotel which will cost \$2 billion and take two years to complete. All initial investments will be retired in approximately 2 years after opening. Yearly net operating income after debt retirement is projected to be U.S. \$2 billion from the operation of the LEO Hotel, ferrying passengers to the hotel, and carrying commercial cargo to space.