**Aerospace Research & Engineering Systems Institute, Inc.**
**Organizational Plan 2011-2013**
***(November, 2010)***

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# ~~Confidentiality Agreement~~ For Public Release

The undersigned reader acknowledges that the information provided by the Aerospace Research & Engineering Systems Institute, Inc. (hereafter referred to as ARES Institute) in this plan is confidential; therefore, reader agrees not to disclose it without the express written permission of ARES Institute.

It is acknowledged by reader that information to be furnished in this plan is in all respects confidential in nature, other than information which is in the public domain through other means and that any disclosure or use of same by reader, may cause serious harm or damage to ARES Institute.

Upon request, this document is to be immediately returned to Matthew Travis at ARES Institute.

_____ _____

Signature Date

_____

Name (typed or printed)

This is a startup plan. It does not imply an offering of securities.

# 1.0 Executive Summary

The Aerospace Research & Engineering Systems Institute, Inc. (ARES) was formed as a not-for-profit corporation in the State of Florida. ARES Institute is currently in the organization and startup phase of operations. This plan is a guide for managing the corporation and will serve as the basis for future capital raising plans.

The main points of this plan are summarized as follows:

- ✓ The objectives of ARES Institute are to create stimulating projects in cooperation with academia, industry and government for the purpose of encouraging students in Florida to pursue aerospace and engineering careers and enhancing math, science and space education in the state.

- ✓ The mission of ARES is to work to protect and grow the aerospace industry and workforce in the State of Florida and to provide the benefits of inspiration and mentoring to the younger generation of students.

- ✓ The key to our success will be our effectiveness in bringing together schools, private industry and government agencies in mutually beneficial projects.

- ✓ ARES is promoting a program called the Florida Aerospace, Science and Technology Education Program (FASTEP) which has three components:

    1. Spacecoast Plasma & High-energy Electrostatics Research Laboratory (SphereLab)
    2. Launch Systems and Rocketry Education (LASRE)
    3. University Microsatellite development

- ✓ The financial outlook at start up is wholly dependent upon our ability to raise private capital in order to establish ourselves as a credible and effective company and pursue public funds and grants.

## 1.1 Objectives

The objectives of this plan are:

1. To provide a written guide for managing this company; a strategic framework for developing a comprehensive tactical fundraising plan.

2. The intended audience is the owner of this business only and selected individuals; this plan is not intended to obtain financing from general outside sources.

3. The scope of this plan is to provide projections for the current plan year and the following two years.

The objectives of ARES Institute are:

1. To establish and maintain a comprehensive program of research and experimental aerospace related projects.

2. To provide inspiration and encouragement to students in math, science and space education.

3. To stimulate an increase in the number of engineering graduates from Florida universities.

4. To stimulate an increase in the number of graduates choosing careers in the aerospace industry in Florida.

5. To retain professionals in the state’s aerospace workforce.

6. To pass on experience and knowledge to the younger generation of aerospace professionals.

7. To encourage aerospace businesses to locate in Florida and provide an opportunity for growth.

8. To involve students from grade school through graduate studies in a comprehensive program of increasing skill and complexity involving rocket, payload and spacecraft design, fabrication and flight.

9. To provide experiential knowledge to secondary and higher level students to supplement classroom learning.

10. To provide supplementary knowledge and continuing education for persons in the workforce for job retraining and skills retention.

11. To follow the motto "Get them when they're young and keep their interest".

## 1.2 Mission

Aerospace Research and Engineering Systems Institute, Inc. is working to benefit the aerospace and engineering workforce of the future in the state of Florida. We are developing and coordinating projects involving students at all levels, helping to inspire the younger generation to pursue science, math, and excellence.

The vision of ARES has three primary components:

- ✓ Involve students from primary school through graduate studies in a comprehensive program of increasing skill and complexity involving rocket, payload and spacecraft design, fabrication and flight.

- ✓ Provide experiential knowledge to secondary and higher level students to supplement classroom learning.

- ✓ Provide knowledge and continuing education for aerospace professionals for job retraining and skills retention.

## 2.0 Company Summary

The Aerospace Research & Engineering Systems Institute, Inc. (ARES) is a not-for-profit corporation in the state of Florida. ARES is working to develop innovative research programs involving academia, industry and government in order to benefit the aerospace workforce in the state. The primary purpose of the Institute is to engage students at all levels of their studies in exciting space-related projects and spur interest in math, science and aerospace careers.

The fundamental philosophy behind the programs of the Institute is that one of the most effective means to make aerospace careers attractive to students is to engage them in hands-on endeavours and provide the experience and the excitement of accomplishing complex aerospace projects. This is essential during a time when universities are turning out fewer and fewer engineering graduates and even fewer are taking up careers in the aerospace industry.

ARES Institute is working to create mutually beneficial partnerships among schools, private industry and government. As a result, it is not only students who will benefit. Small businesses and aerospace corporations will benefit by being able to engage in research projects and create new products and technology for the commercial marketplace. The projects also will serve as a form of recruitment for new employees in a manner similar to summer internship programs. Graduates are more likely to desire employment with firms they have worked with while still in school. The state will benefit by developing, attracting and keeping a skilled aerospace workforce, which will also help to enable the state to attract more aerospace companies to locate in Florida as opposed to other states.

Small and medium-sized businesses will benefit from the partnerships created by ARES Institute. Small businesses will benefit from being engaged as partners by virtue of the dollars that they will receive. Additionally, small firms will be provided the opportunity to develop their technology, which can then be turned around and incorporated into their commercial offerings. Companies will be able to conduct research and development activities that they might not otherwise be able to afford.

## 2.1 Growth Summary

ARES Institute, Inc. is seeking to obtain funding for its operations. Currently, approximately $35,000 has been invested by FY 2010 from the personal holdings of the company's principals and other sources. In order to firmly establish operations, a further $60,000 in commitment is needed by the end of 2011. This would fund office space, equipment expenditures, travel and other fundamental aspects of business startup. We will be seeking this funding from private sources through grants and donations. In the future we will pursue public funds however in the early phase of startup we have determined that the best course to take is to approach private sources.

| | |
|---|---|
| Start-up Plan (FY 2011 Only) | |
| Start-up Expenses | |
| | |
| Stationery, office supplies, etc. | $3,000 |
| Salaries & wages | $15,000 |
| Brochures, media | $5,000 |
| Rent | $5,000 |
| Travel | $2,000 |
| Expensed equipment | $30,000 |
| Total Expense | $60,000 |
| | |
| Assets Needed | |
| Cash Requirements | $30,000 |
| Material, hardware and equipment | $30,000 |
| | |
| Total Assets Required | $60,000 |
| | |
| Existing Assets | $35,000 |
| | |
| Total Funding Requirements: | $60,000 |
| Left to finance: | $60,000 |
| | |
| Funding Plan | |
| Donations | $45,000 |
| Grants | $15,000 |
| Other | $0 |
| Total investment | $60,000 |
| | |
| Short-term Liabilities | |
| Total Liabilities | $0 |
| | |
| | |
| Loss at Start-up | $0 |
| Total Capital | $60,000 |
| Total Capital and Liabilities | $60,000 |

# 3.0 Programs Offered

ARES Institute's proposal is a project called the Florida Aerospace, Science and Technology Training Program (FASTEP). FASTEP is a proposed comprehensive program consisting of 3 individual projects that span elementary through post-graduate level students. The FASTEP program is multidisciplinary in nature and spans a broad range of math, science, engineering and humanities oriented skills. FASTEP is designed to leverage existing talent and knowledge of professionals in the aerospace industry by giving professionals the opportunity to work with students. Additionally, older students work with younger students and pass on their knowledge. Multi-tiered mentoring is an effective way to spread experiential knowledge and increases the likelihood for project success and promotes teamwork and leadership. FASTEP is composed of the Spacecoast Plasma & High-energy Electrostatics Research Laboratory, Launch Systems and Rocketry Education, and microsatellite utilization programs.

## 3.1 Spacecoast Plasma & High-energy Electrostatics Research Laboratory (SphereLab)

VISION: To create proprietary research capabilities in the discipline of plasma science & engineering, desirable enough to attract esteemed visiting researchers, new faculty, doctoral candidates, and grad Students, for the opportunity to use its "Signature Instrument(s)"in their own investigations.

The Spacecoast Plasma & High-Energy Electrostatics Laboratory (SPHERELAB) is envisioned as a state-of-the-art yet cost-effective facility for the study of the challenges and problems of Inertial Electrostatic Confinement (IEC) fusion and its potential use in terrestrial and aerospace power and propulsion applications.

PRINCIPAL OBJECTIVES:

1. Seeding Federal R&D Contracts
2. Develop a Versatile, Low Cost Experimentation Testbed for Alternative Plasma/Fusion Research Studies
3. Conduct Key Internal Experiments–Papers for Publication–Theses & Dissertations
4. Attract Funded Guest Researchers
5. Obtain Industrial Applications Contracts

Located near Kennedy Space Center on Florida's Space Coast, SPHERELAB will provide the opportunity for university students and researchers in Central Florida to engage in cutting-edge plasma and fusion research while attracting talent from overseas as well. The laboratory will be a testbed for new technologies and potential commercial spinoffs from the research activities being conducted.

This project has several important aspects to it. Most important, once the laboratory is complete, it will be available for university students and researchers to use to conduct their own experiments. The goal of the lab is to draw scientists together in the study of IEC fusion, the challenges in achieving positive power production and the many potential applications of IEC fusion.

The laboratory will investigate the potential aerospace applications of IEC fusion. Along the way, it will advance the goal of achieving Earth-based fusion power production and the holy grail of producing more power from the reaction than is required to sustain it.

The lab will start with modest objectives. It will be a state-of-the-art facility, but small and cost-effective for university researchers. There aren't grand visions of solving al of the challenges with fusion, but the lab will conduct valuable research in the field. Once up an running, the research

conducted at the lab will bootstrap itself and hopefully lead to more funding, grants and expansion of the facility and its capabilities in the several years after it opens.

## 3.2 Launch Systems and Rocketry Education

The fundamental purpose of this program is to provide students with hands-on experience designing, developing and testing a rocket propulsion system. When students reach university level studies, their education will progress to the design, fabrication and testing of rocket systems. Working in larger teams in multi-semester projects, students will work with industry personnel to design and construct a rocket engine, and then take the engine through testing. Students will learn what it takes to design real-world hardware and gain an appreciation for quality control, testing, measurement, and in-depth problem-solving skills. The climax is the live firing of the engine that has been developed through the project. Valuable skills are gained in the process. Participants will become fully immersed in aerospace technology development. The multi-disciplinary nature of the work benefits students pursuing not only aerospace careers, but also students who pursue and career in which math, science, engineering or related skills are desired. Further, the teamwork, leadership, problem-solving and communication skills will benefit students in all fields of study.

## 3.3 Spacecraft Development & Mission Operations

The basic purpose of the university microsatellite program is to provide hands-on experience in a multidisciplinary team-oriented scientific space mission including mission operations. The highest level of ARES Institute's comprehensive program is the full life-cycle development of a microsatellite. Universities, private industry and federal and state government agencies will work together to provide students the opportunity to conduct a microsatellite mission. Students will be taken through the process of mission selection, spacecraft design and fabrication through the launch process and mission operations once the spacecraft is in orbit. Students and aerospace workers will cooperate in making a space mission happen. Students would be involved at all levels, including the selection and development of one or more scientific payloads to fly on the spacecraft. In the process, aerospace workers will gain valuable training and retraining, and through mentoring, pass on their knowledge and skills to the younger generation. Additionally, small businesses will become engaged as partners and sponsors, stimulating small aerospace businesses in Florida. Most importantly, there is no greater incentive to students to enter the aerospace workforce than enabling them to create and fly a real spacecraft, building on their experience with the student rocket program and rocket design projects.

One proposal under study currently is to utilize the CubeSat microsatellite architecture. The user adds the payload of scientific instruments. Using a satellite kit would allow the students to focus on the payload construction and mission operations and would accelerate development time and reliability for a fairly nominal cost. Furthermore, the cost of a CubeSat kit is less than the cost of designing and fabricating a microsatellite from scratch.

## 4.0 Market Analysis Summary

Math, science and engineering are facing a crisis of decreasing enrollment. As a consequence, the number of engineering graduates has been on a decline over the last decade. The net result is that fewer people are entering the engineering workforce, as an increasing number of jobs are moved overseas. NASA and the aerospace industry faces the brunt of this since students who do graduate from engineering schools tend to go into other industries than aerospace. In the 1980's it seemed everyone wanted to enter the biotechnology industry. With the advent of the World Wide Web, and the ensuing hype and dotcom "boom", engineers flocked to the computer and telecom industries.

Patrick Simpkins, a former senior human resources manager with the National Aeronautics and Space Administration (NASA) told the NASA advisory council that NASA's decreasing ability to attract skilled engineering workers presents a potential critical problem in the future. Of note, there are relatively few employees out of the total workforce of 15,000 who are 25 to 30 years old. The issue is not a loss of scientists and researchers. "When they get here they don't seem to want to leave", Simpkins said. The real problem lies in attracting enough young people to offset the loss of skills stemming from the retirement of older workers. To address these concerns, NASA has instituted an initiative to hire people directly out of college, a small shift in focus from a singular preference for people with real-world work experience. Additionally, an outreach has begun to attract students from smaller universities as well as the large well-known institutions.

It is our intention to pursue the opportunity to establish programs statewide to address the needs that NASA, the State of Florida, and industry have identified.

## 4.1 Legislative Influences

We also take note of two legislative items that are currently awaiting passage. This legislation, if passed by Congress will stimulate the many startup launch service provider companies that are now developing vehicles and services. Two main issues they face are obtaining R&D financing and overcoming daunting regulatory hurdles.

H.R. 2358, the “Invest In Space Now Act of 2003”, will “amend the Internal Revenue Code of 1986 to encourage the timely development of a more cost effective United States commercial space transportation industry” in order to “ensure availability of otherwise unavailable private sector equity financing for United States private sector development of commercial space transportation vehicles which will have transportation costs significantly below current levels”

S. 1260, the ‘‘Commercial Space Transportation Act of 2003 ’’ will promote the development of the commercial space transportation industry, to authorize appropriations for the
Office of the Associate Administrator for Commercial Space Transportation.” Additionally, under this law, if passed, “the Secretary of Transportation shall submit to Congress a report on the need for a distinct regulatory regime for suborbital vehicles taking into account the unique characteristics and purposes of these vehicles.”

These laws will hopefully have a stimulating effect on the launch services industry, and hence will benefit the state of Florida by increasing potential business at the Cape Canaveral Spaceport. As a result, there will be an increasing need for skilled workers in the state. The need will extend beyond employment at the spaceport itself. Companies providing support services, subcontractors of aerospace companies, and businesses indirectly related to the aerospace industry will also have needs for skilled professionals. This will put an increasing burden on the educational system to turn out engineering, science, and math related graduates. Even without the effects of the aforementioned legislation, the future promises to bring a growing aerospace industry and greater needs for skilled workers. And example of this can be found by looking at Space Exploration Technologies (SpaceX) and other companies. SpaceX plans to conduct operations of its Falcon Launch Vehicle from Launch Complex 46 at the Cape Canaveral Spaceport. An agreement has already been reached with the Florida Space Authority for use of the FSA-owned LC46. SpaceX will be the first new launch company to base operations from Cape Canaveral since Orbital Sciences started flying their Pegasus booster from the spaceport.

## 4.2 Florida's Comprehensive Assessment Test

In the early 1970's, the statewide assessment of students in selected grades was authorized. In 1976, the Florida Legislature approved assessments in grades 3, 5, 8, and 11, including the nation's first high school graduation test. Since then the Legislature has continuously supported assessment and evaluation activities in the state 's public school system. In 1999,the Legislature amended Section 229.57, Florida Statutes, to expand Florida's Statewide Assessment Program to include grades 3 –10. Florida students are increasingly expected to display high-level learning and perform complex problem solving. Today, the job market requires people who are proficient in advanced mathematics and who can read and construct meaning from difficult and technical texts. The FCAT is given to measure achievement of the Sunshine State Standards that are being taught to and learned by Florida students. The Florida Comprehensive Assessment Test (FCAT) is part of Florida's overall plan to increase student achievement by implementing higher standards for public school students. It contains two basic components: a portion measuring selected benchmarks in reading, writing, and mathematics from the Sunshine State Standards (SSS); and a second part measuring each student 's performance against national norms.
(Source: FCAT Briefing Book)

The programs of ARES Institute will be complementary to the objectives and standards of FCAT and other state-sponsored initiatives. Fundamental to the goal of increasing the size of the engineering workforce is increasing the skill level of students in the state. ARES Institute focuses on all students, from gradeschool through graduate studies. FASTEP will act as a stimulus for students to achieve, the effects of which are reflected in the results of such things as FCAT.

## 4.3 Local schools as desired partners

The Florida Institute of Technology (Florida Tech) was created to meet the educational needs of the aerospace workforce in Brevard County. It has since expanded to become an internationally known university with specialization in technology fields. ARES is hopeful that in the future Florida Tech will become a primary partner in our endeavours. In June 2003, a new provost was hired. Dr. T. Dwayne McCay has been involved in the space industry for many years and was chief executive officer of UT's Space Institute from 1996 to 2003. From 1991 to 1993, he was program chairman of Engineering Science and Mechanics. Prior to that he was chief of the Propulsion Division, Structures and Propulsion Laboratory at NASA's Marshall Spaceflight Center. McCay has set three goals for the coming year:

1. Improve the quality of programming at Florida Tech
2. Increase student enrollment and program offerings
3. Enhance the image of Florida Tech, Melbourne and the Space Coast

Florida Tech also sought to double annual research funding at the university in the next two to three years. (Source: Florida Today, June 20, 2003)

ARES Institute intends to focus initially on working with schools local to the Space Coast and Brevard County. These include Florida Tech, Brevard Community College, Embry-Riddle, as well as the local public school districts and private schools.

## 4.4 Market Segmentation

Our programs focus on educational institutions, and address the unique characteristics of all levels of students. Some programs are tailored to elementary schools while other programs are suited for high schools or universities. Projects at all levels are coordinated with each other to create a continuing program of educational initiatives that last throughout a student's educational career.

Roughly speaking, we are targeting three market segments: Elementary, secondary and university level educational institutions. These coincide with the three phases of a person's educational career. Each segment has its own particular needs and uniqueness. As such, our three programs are being tailored to the specific recipients.

## 4.5 Target Market Segment Strategy

It is necessary to establish specific focus for each of the target groups because each has distinct needs and abilities. Younger students require simpler projects designed to capture their interest. As students get older and smarter, the projects should get more complex and challenging, in order to keep their interest. Our projects form a natural growth path for participants and being tied together form a comprehensive program spanning an entire educational career.

The Florida Aerospace, Science and Technology Education Program is comprised of three separate though connected initiatives. Each phase is targeted at a specific group of students, from elementary through university levels.

We will target K-12 grade institutions with our Rockets for Schools program. By engaging students in rocketry activities, our aim is to build math, science and basic problem-solving skills as well as teamwork and cooperation. Younger students need this emphasis on the basics. High school and college students have requirements beyond just the fundamentals. LASRE and the microsatellite projects will build more advanced skills. Students will learn complex problem-solving and project-oriented skills. The creative abilities of students will be nurtured, and, for university students, they will receive exposure to what it's like to work in the aerospace industry. All of the programs will rely on the benefits of mentoring. Older students will assist younger students and aerospace professionals will work with students. In this way, knowledge and experience will be passed on.

## 4.6 Service Business Analysis

Educational research organizations work as facilitators of programs of benefit to the educational industry by partnering school-based institutions with private businesses and organizations to create and manage cooperative projects.

Our focus being aerospace engineering, schools and private industry are engaged in projects giving students hands-on engineering experience and mentoring from workforce professionals. Central to the success of projects sponsored by ARES is the quality of the partnerships that are created with private industry and government. Donation of people, hardware, time, and money are all required. Whether it's a company donating a couple dozen model rocket kits or a machine shop donating a multi-thousand dollar lathe, corporate benefactors and sponsors are a vital source of material and knowledge. Conversely, a company participating in the programs will be provided the opportunity to engage students in the development and testing of new components and technologies, thus maximizing scarce research and development funds. Additionally, government grant funds, which are in short supply currently, may be matched with corporate donations, spread across multiple schools and utilized much more effectively. In this case, academic institutions would benefit by the creation of partnerships among schools, industry and with a moderate amount of state government support. Strong partnerships help to create more successful projects and all parties benefit from that.

## 4.7 Competition

ARES Institute won't compete directly with other organizations since our projects are unique in nature. However, in practice it is necessary to compete for government and private grant dollars.

Aerospace engineering enrollments are declining and the result is that universities and colleges must compete for students. Additionally, state governments are attempting to attract the best and brightest to schools in their respective states. Partnerships and programs have been established by several state governments to help universities attract engineering students and to encourage those students to take employment in those states upon graduation. California is an example of this type of cooperation.

### 4.7.1 California Example

In 2002, companies in the state of California generated revenues of $24.2 billion. This figure represents approximately 30% of the global aerospace revenues of $84.4 billion. Looking toward the future, the state made the commitment to take a leading position in the development of new space transportation and application technologies. Within the California Technology, Trade and Commerce Agency (CTTCA), a permanent, senior-level position for the administration of space development programs was created, along with a competitive space grant program.

TTCA sponsored four cycles of the Competitive Space Grant Program since late 1997. A total of $6.86 million in grant funds has leveraged $15.42 million in cash and fifty-seven individual grants ranging in amount from $32,000 to $200,000 have been awarded to date. Projects focus is in technology development, workforce/education and infrastructure and are available to for-profit companies (particularly small businesses), educational institutions, non-profit and community-based organizations

The grants are concentrated on several areas. The first goal is developing and commercializing space-related technologies into globally competitive products and services. Additionally, a goal is building space industry infrastructure (including those that are related to Reusable Launch Vehicles (RLVs) and Evolved Expendable Launch Vehicles (EELVs)). The third goal is developing and replicating educational and work force development activities relevant to the space industry.

## 5.0 Funding Strategy and Implementation Summary

As a not-for-profit corporation, ARE Institute will rely on private donations, grants and government contracts for revenue. During the startup phase, we will pursue private donations and grants as we establish operations. We will use those funds to bootstrap the organization as we pursue relationships with schools and government agencies.

ARES Institute intends to generate revenue from 4 primary sources:

1. Institutional grants from private foundations and industry
2. Grants and contracts from federal and state government agencies
3. Private individual donations
4. Corporate sponsorship of activities, projects, rockets, etc.

Additionally, there is the potential for generating income from two ancillary sources:

1. Contracted services to commercial customers for engineering work.
2. Miscellaneous sales and services (software, consulting, etc.).

These are not primary sources of income. However, in the future they may provide substantial revenue in addition to the four sources above.

## 5.1 Competitive Edge

ARES Institute is one of a handful of aerospace-oriented private, non-governmental, non-profit companies with a focus on Florida. Capital expended by the company will be spent mostly in Florida and the projects benefit schools and businesses in Florida. We will leverage our ties to the Space Coast, the local aerospace industry, and the underutilized experience base that exists currently in the state.

Some of our strengths include:

- ✓ The principals' experience in the software and Internet industry and in the space community.
- ✓ The principals' market research, sales and advertising experience.
- ✓ The principals' accounting and business management experience.
- ✓ We are strategically located on Florida's Space Coast

## 5.2 Sales Strategy

Our intention is to initially pursue grants from the private sector to fund startup operations and the establishment of our programs. This initial funding will enable us to acquire office space and equipment, bring in some outside consulting and pay initial salaries and lay the groundwork for future operations. During this time, we will create relationships with schools, government agencies, and companies who are potential partners in future projects.

Once the initial phase is underway, we will begin to pursue government grants and further funding from private industry. This will begin with approaching the various state agencies chartered for the purpose of providing assistance to organizations in the state for science, math and space related projects. Examples of such agencies include the Florida Space Research Institute (FSRI), Technology Research and Development Agency (TRDA), Economic Development Commission of Florida's Space Coast, Space Florida and others. We will also approach elected members of government in an effort to establish alliances. Concurrent with those efforts, we will begin an outreach effort to school institutions in the state, initially focusing on schools in the Space Coast region.

In the first few months of operation, our focus will be on establishing relationships with elementary and secondary schools with the Student Rocket Program. We will use that as a stepping-stone to begin to reach out to universities as we establish our other programs.

### 5.2.1 Funding Targets

| Funding Forecast | FY2009 | FY2010 | FY2011 |
|---|---|---|---|
| Facilities & equipment | $30,000 | $75,000 | $125,000 |
| Salaries | $15,000 | $45,000 | $75,000 |
| Travel, miscellaneous | $15,000 | $15,000 | $25,000 |
| Total Funding Requirements | $60,000 | $135,000 | $225,000 |

## 5.3 Milestones

The desired implementation schedule for each phase is:

- IRS 501( c ) ( 3 ) determination received March 2009, effective June 13, 2007
- Funding goals met by Q4 2011
- FASTEP architecture and proposals completed by Q2 2011
- SphereLab Program begins in Q1 2010
- First SphereLab demonstration projects completed at the end of Q2 2011
- LASRE begins in Q3 2011
- First LASRE rocket engine tested at the end of Q1 2012
- First microsatellite project begins in Q3 2012
- First microsatellite ready to launch by the end of Q1 2014

## 6.0 Management Summary

The initial management team consists of the founders themselves, with limited outside consulting and assistance. During the startup process and as the organization grows, we will take on additional staff with experience in the specific areas that we will need to address, such as internet consulting, space engineering, educational professionals, and business management.

The management team initially consists of:

- Mr. Matthew Travis, President, Executive Director, who has experience with non-profit companies, startup companies, and the Internet and software development industries.

- Mr. Douglas Peets, Secretary, Director of Outreach, Public Affairs and Marketing, who has experience in marketing, market research and analysis, sales, and advertising.

- The accounting firm of Lawrence Travis & Co. P.C., of Illinois, has been retained for tax, accounting and management advisory services.

# 7.0 Financial Plan

We intend to finance by three means, private grants from established organizations, private donations from individuals, and grants and contracts from government. Hopefully, this will be supplemented by selling ancillary services and/or products that might result form our activities.

Initially, we will focus on raising private grant money in order to establish operations and our programs. We will use this to bootstrap the organization and establish relationships with governmental agencies and pursue government grants and projects. During this time, private individual donations will be solicited, and we will have tax-exempt status.

We are assuming and our goal is for capital inlays and equipment donations totaling $60,000 for 2011 with the objective of $225,000 in 2013

Our fiscal year runs from January to December of the calendar year

## 7.1 Important Assumptions

- We will maintain a limited paid staff and rely on volunteer and pro-bono consultants for a portion of our activities.
- The economy will either maintain a steady state or slightly grow over the next 3 years.
- Spending will not exceed revenues for the first 18 months of this plan.
- There will not be any loans or other forms of debt acquisition in FY 2011.

# Appendix A: Biographical Information

## Matthew Travis, Executive Director

Mr. Travis studied aerospace engineering and computer science at the University of Illinois at Urbana-Champaign. He worked as a software engineer at the National Center for Supercomputing Applications at UIUC, developing collaborative technologies software. Following that, he spent several years in private network consulting. He has been an active member of the space advocacy community for 15 years and is or has been a member of the National Space Society, Reaction Research Society, Tripoli Rocketry Association, National Association of Rocketry, AIAA and other industry organizations.

## Douglas Peets, Director of Outreach, Public Affairs and Marketing

Mr. Peets completed studies in radio communications in 1984. Since that time, he has worked with radio broadcasting companies, market research firms, and other businesses, in the area of promotion. In addition to his on-air broadcasting work, he has held the position of Public Service Director with a variety of radio stations. In Michigan, he held a supervisory role in the marketing department of Market Resource Group, a nationally recognized political research firm. In Chicago, Illinois, Mr. Peets led field research teams, as Project Coordinator, with Horizon Field Service. He has also been Marketing Manager for Jason, Inc., a large building contractor, in Cocoa, Florida. His talents are currently being utilized as Marketing Director for a home improvement company, in the Washington, D.C. area. Business to business marketing, field and teleresearch, direct sales, print advertising, copywriting, public speaking, fundraising, and general marketing, are some of the areas of expertise that Mr. Peets brings to ARES. He has been a resident of Florida's Space Coast, and is a member of the National Space Society.

## Lawrence Travis & Co., P.C., Tax and financial services

Lawrence Travis & Co., P.C. is a full service certified public accounting firm located in Central Illinois. Offices are maintained in Springfield, Virden, Normal and Jacksonville, Illinois. The firm, established in 1979, is licensed by the state of Illinois and is a member of both the American Institute of Certified Public Accountants and the Illinois CPA Society.

The firm specializes in governmental audit services, small business accounting services and tax planning and preparation. Payroll and check writing services are also available.

**Qualifications**

- Certified Public Accountant
- Certified Government Finance Manager
- Masters in Public Administration

**Memberships**

- National Society of Accountants
- Illinois CPA Society
- Association of Government Accountants

# Appendix B: Articles of Incorporation

The Aerospace Research & Engineering Systems Institute, Inc. was incorporated as the Space Engineering Institute, Inc. on January 31, 2002. In order to have a name that better the work of the organization, a corporate name change, via Articles of Amendment, was undertaken concurrent with the filing of the corporate annual report in May of 2003. The name chosen was Aerospace Research & Engineering Systems Institute, Inc. Subsequently, ARES Institute, Inc. filed new incorporation papers reflecting the change on June 13, 2007.

**Electronic Articles of Incorporation**
**For**

**N02000000704**
**FILED**
**January 31, 2002**
**Sec. Of State**

SPACE ENGINEERING INSTITUTE, INC.

The undersigned incorporator, for the purpose of forming a Florida not-for-profit corporation, hereby adopts the following Articles of Incorporation:

**Article I**

The name of the corporation is:

SPACE ENGINEERING INSTITUTE, INC.

**Article II**

The principal place of business address:

617 AUBURN AVE.
MELBOURNE, FL. 329017705

The mailing address of the corporation is:

617 AUBURN AVE.
MELBOURNE, FL. 329017705

**Article III**

The specific purpose for which this corporation is organized is:

TO DEVELOP DELIVERY SYSTEMS AND HARDWARE, AND PROCESSES FOR PAYLOADS ON SUB-ORBITAL RESEARCH MISSIONS; AND ENGAGE IN THESE ACTIVITIES IN COOPERATION WITH ACADEMIA AND INDUSTRY TO FURTHER THE GROWTH OF THE SPACE INDUSTRY IN FLORIDA.

# Electronic Articles of Incorporation For

N07000005890
FILED
June 14, 2007
Sec. Of State
clewis

AEROSPACE RESEARCH AND ENGINEERING SYSTEMS INSTITUTE, INC.

The undersigned incorporator, for the purpose of forming a Florida not-for-profit corporation, hereby adopts the following Articles of Incorporation:

## Article I

The name of the corporation is:

AEROSPACE RESEARCH AND ENGINEERING SYSTEMS INSTITUTE, INC.

## Article II

The principal place of business address:

309 GEORGETOWN AVE.
MELBOURNE, FL. US 32901

The mailing address of the corporation is:

309 GEORGETOWN AVE.
MELBOURNE, FL. US 32901

## Article III

The specific purpose for which this corporation is organized is:

TO FACILITATE AND PROMOTE SPACE SCIENCE AND ENGINEERING EDUCATION AND RESEARCH TO THE PUBLIC AND ACADEMIC STUDENTS THROUGH THE CREATION AND MANAGEMENT OF RESEARCH PROGRAMS IN PARTNERSHIP WITH SCHOOLS, INDUSTRY AND GOVERNMENT ORGANIZATIONS.

## Article IV

The manner in which directors are elected or appointed is:

AS PROVIDED FOR IN THE BYLAWS.

## Article V

The name and Florida street address of the registered agent is:

MATTHEW B TRAVIS
309 GEORGETOWN AVE.
MELBOURNE, FL. 32901

I certify that I am familiar with and accept the responsibilities of registered agent.

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Registered Agent Signature: MATTHEW TRAVIS

## Article VI

The name and address of the incorporator is:

MATTHEW TRAVIS
309 GEORGETOWN AVE.

MELBOURNE, FL 32901

Incorporator Signature: MATTHEW TRAVIS

## Article VII

The initial officer(s) and/or director(s) of the corporation is/are:

Title: P
MATTHEW B TRAVIS
309 GEORGETOWN AVE.
MELBOURNE, FL. 32901 US

Title: T
MATTHEW B TRAVIS
309 GEORGETOWN AVE.
MELBOURNE, FL. 32901 US

Title: S
DOUGLAS A PEETS
1118 P SREET NW, APT. 1
WASHINGTON, DC. 20005 US

## Article VIII

The effective date for this corporation shall be:

06/13/2007

**Appendix B: Articles of Incorporation Articles of Amendement for IRS 501 c(3) Purposes**

## ARTICLE IX
## IRC 501(C)(3) TAX EXEMPTION PROVISIONS

### SECTION 1. LIMITATIONS ON ACTIVITIES

No substantial part of the activities of this corporation shall be the carrying on of propaganda, or otherwise attempting to influence legislation [except as otherwise provided by Section 501(h) of the Internal Revenue Code], and this corporation shall not participate in, or intervene in (including the publishing or distribution of statements), any political campaign on behalf of, or in opposition to, any candidate for public office.

Notwithstanding any other provisions of these Bylaws, this corporation shall not carry on any activities not permitted to be carried on (a) by a corporation exempt from federal income tax under Section 501(c)(3) of the Internal Revenue Code, or (b) by a corporation, contributions to which are deductible under Section 170(c)(2) of the Internal Revenue Code.

### SECTION 2. PROHIBITION AGAINST PRIVATE INUREMENT

No part of the net earnings of this corporation shall inure to the benefit of, or be distributable to, its members, directors or trustees, officers, or other private persons, except that the corporation shall be authorized and empowered to pay reasonable compensation for services rendered and to make payments and distributions in furtherance of the purposes of this corporation.

### SECTION 3. DISTRIBUTION OF ASSETS

Upon the dissolution of this corporation, its assets remaining after payment, or provision for payment, of all debts and liabilities of this corporation shall be distributed for one or more exempt purposes within the meaning of Section 510(c)(3) of the Internal Revenue Code or shall be distributed to the federal government, or to a state or local government, for a public purpose. Such distribution shall be made in accordance with all applicable provisions of the laws of the state of Florida.

**SECTION 4. PRIVATE FOUNDATION REQUIREMENTS AND RESTRICTIONS**

This corporation is organized as a public charity. However, if this corporation so elects to operate as a private foundation as described in Section 509(a) of the Internal Revenue Code, the corporation 1) shall distribute its income for said period at such time and manner as not to subject it to tax under Section 4942 of the Internal Revenue Code; 2) shall not engage in any act of self-dealing as defined in Section 4941(d) of the Internal Revenue Code; 3) shall not retain any excess business holdings as defined in Section 4943(c) of the Internal Revenue Code; 4) shall not make any investments in such manner as to subject the corporation to tax under Section 4944 of the Internal Revenue Code; and 5) shall not make any taxable expenditures as defined in Section 4945(d) of the Internal Revenue Code.