National Aeronautics and Space Administration

NASA TECHNOLOGY TRANSFER PROGRAM

BRINGING NASA TECHNOLOGY DOWN TO EARTH

How to Leverage NASA Technology to Benefit Your Company

STP Technology Expo
May 24, 2021
NASA Ames Research Center

NASA Ames Research Center

Armstrong Flight Research Center

Jet Propulsion Laboratory

Glenn Research Center

HQ

Goddard Space Flight Center

Langley Research Center

Marshall Space Flight Center

Stennis Space Center

Johnson Space Center

Kennedy Space Center

NASA's Technology Transfer Program

Since it’s inception over 50 years ago, NASA's Technology Transfer Program ensures that innovations developed for exploration and discovery are broadly available to the public, maximizing the benefit to the Nation.

Whether you're looking to start a new company, enhance an existing product, or create a new product line, you can gain a competitive edge in the marketplace by putting NASA technology to work for you. (reducing time to market, vetting proven tech, etc.,)

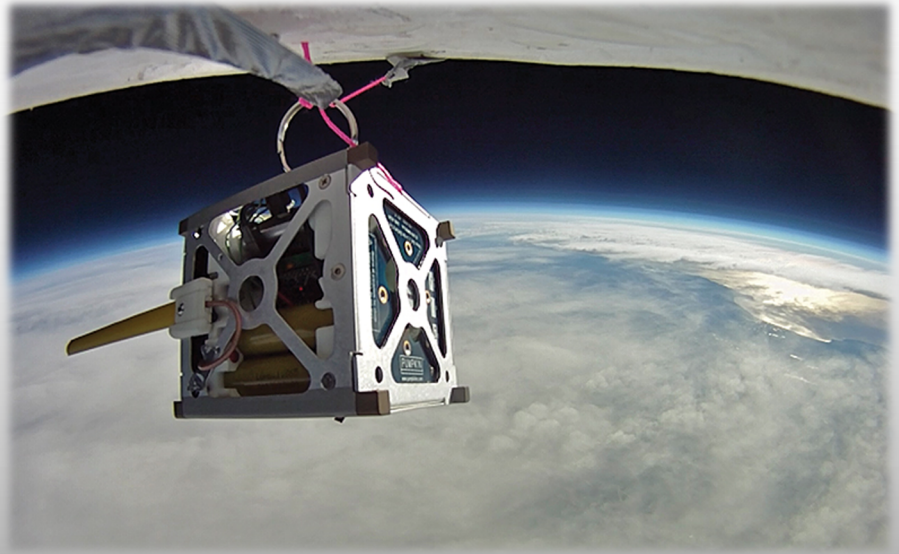
Why should a company license NASA technology? A NASA license also allows access to a technology for testing, and to implement it into a system, service, or product that could result in sales. The Ames Technology Transfer Office cares about success of commercial businesses, and the negotiation of terms is done on a case-by-case basis.

Success Stories

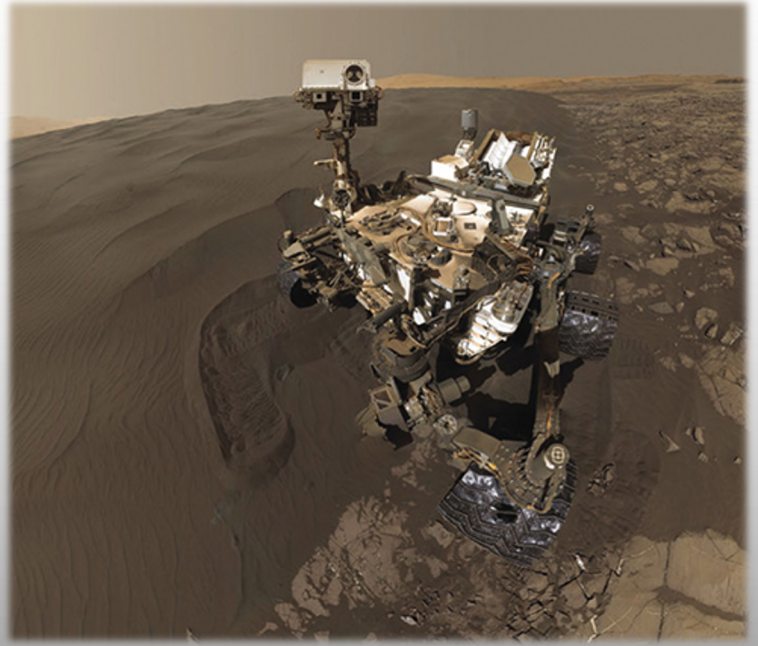
https://spinoff.nasa.gov/

NASA TECHNOLOGY TRANSFER PROGRAM

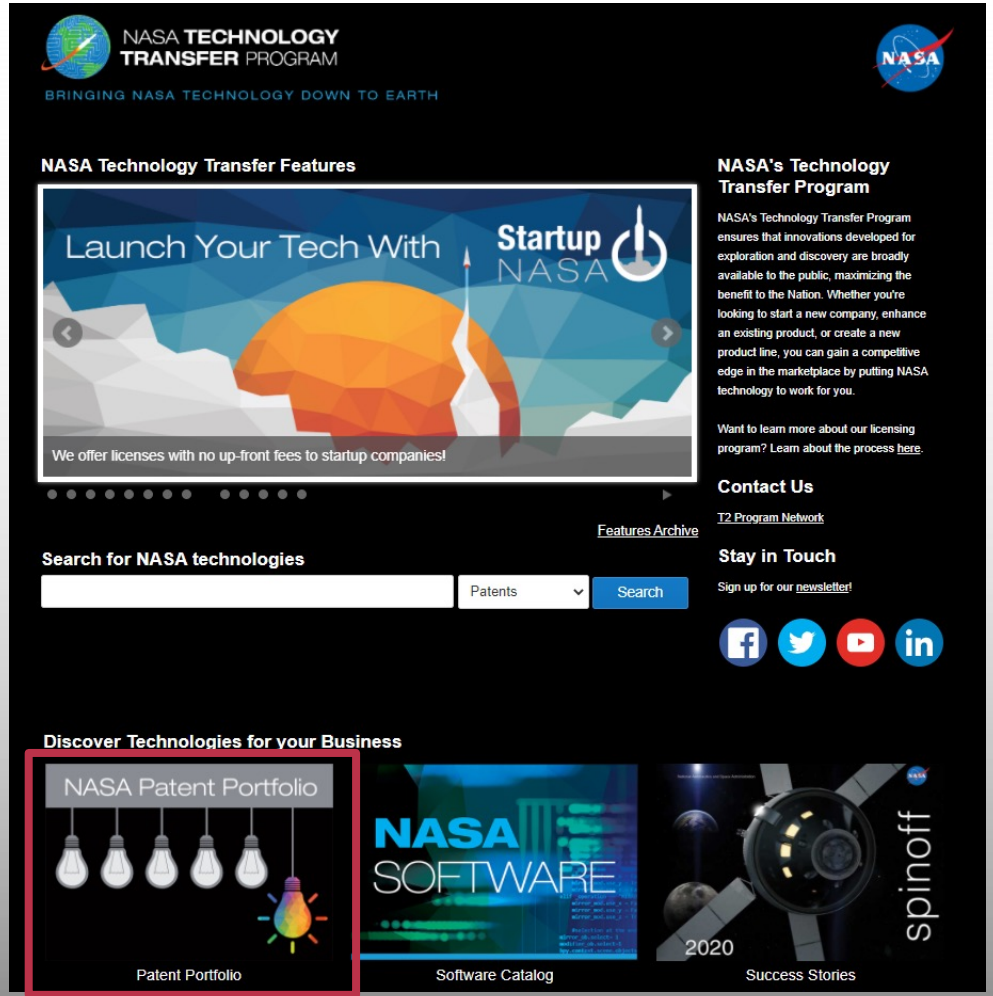
Flock of Nanosatellites Provides a Daily Picture of Earth



Mineral Analyzer Shakes Answers Out of Soil and Rocks



Patent Portfolio

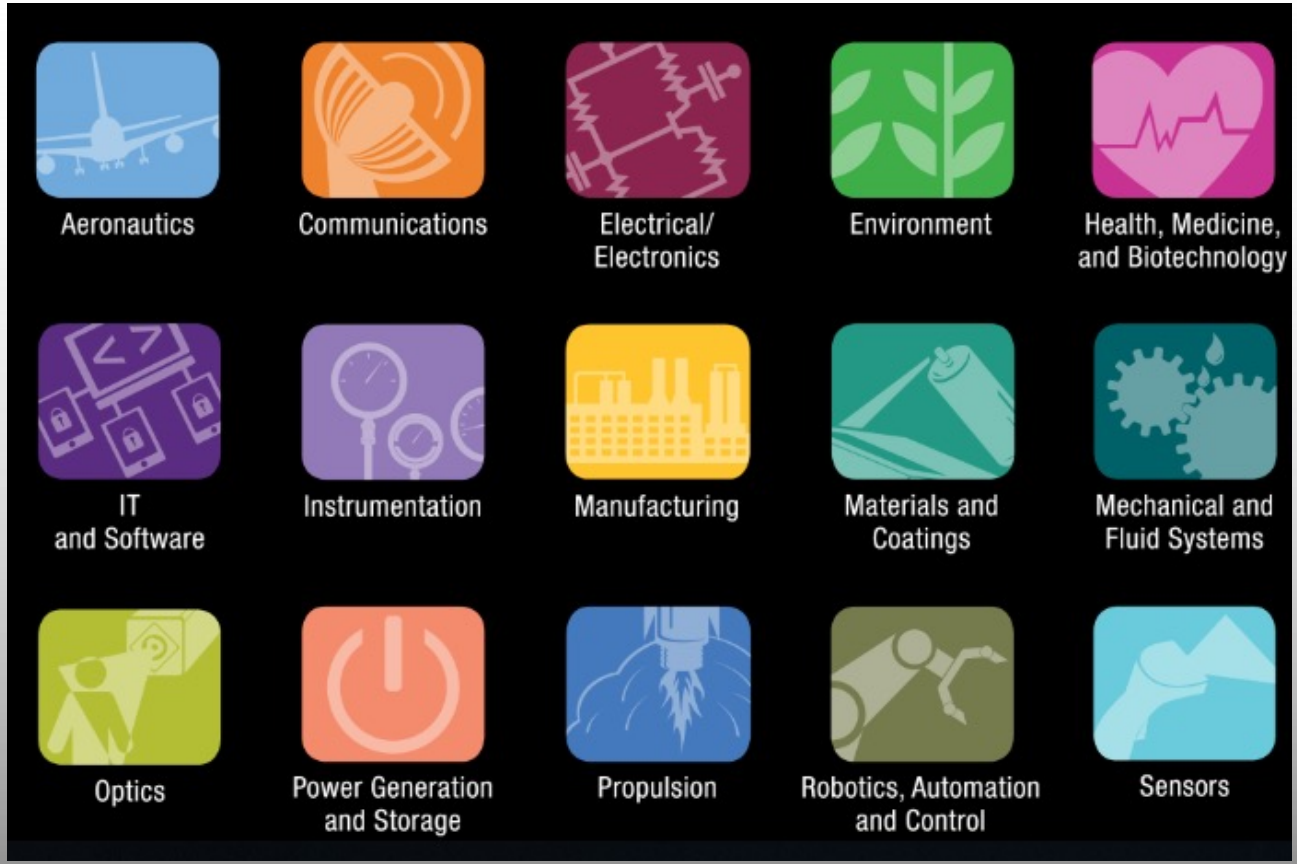


Search for a technology in the search bar using descriptive keywords, or simply click on the NASA Patent Portfolio.

Patent Portfolio…

NASA TECHNOLOGY TRANSFER PROGRAM

Browse 15 category areas of licensable technologies.



TOP Number	Title	TOP Category	Website
TOP2-162	**Transformable Hypersonic Aerodynamic Decelerator**	Aeronautics	https://technology.nasa.gov/patent/TOP2-162
TOP2-165	**Nanosatellite Launch Adapter System**	Aeronautics	https://technology.nasa.gov/patent/TOP2-165
TOP2-274	**Affordable Vehicle Avionics (AVA)**	Aeronautics	https://technology.nasa.gov/patent/TOP2-274
TOP2-253	**Heterogeneous Spacecraft Networks**	Communications	https://technology.nasa.gov/patent/TOP2-253
TOP2-248	**Space Optical Communications Using Laser Beams**	Communications	https://technology.nasa.gov/patent/TOP2-248
TOP2-287	**Fine-pointing Optical Communication System Using Laser Arrays**	Communications	https://technology.nasa.gov/patent/TOP2-287
TOP2-167	**Woven Thermal Protection System**	Manufacturing	https://technology.nasa.gov/patent/TOP2-167
TOP2-262	**Multispectral Imaging, Detection, and Active Reflectance (MiDAR)**	Optics	https://technology.nasa.gov/patent/TOP2-262
TOP2-284	**Fluid Lensing System for Imaging Underwater Environments**	Optics	https://technology.nasa.gov/patent/TOP2-284
TOP2-213	**Monitoring and Control of Each Nanosatellite within a Cluster of Nanosatellites**	Robotics, Automation and Control	https://technology.nasa.gov/patent/TOP2-213
TOP2-265	**Low Cost Star Tracker Software**	Robotics, Automation and Control	https://technology.nasa.gov/patent/TOP2-265
TOP2-267	**Cost Optimized Test of Spacecraft Avionics and Technologies(COTSAT) Modular Spacecraft Software Architecture**	Robotics, Automation and Control	https://technology.nasa.gov/patent/TOP2-267

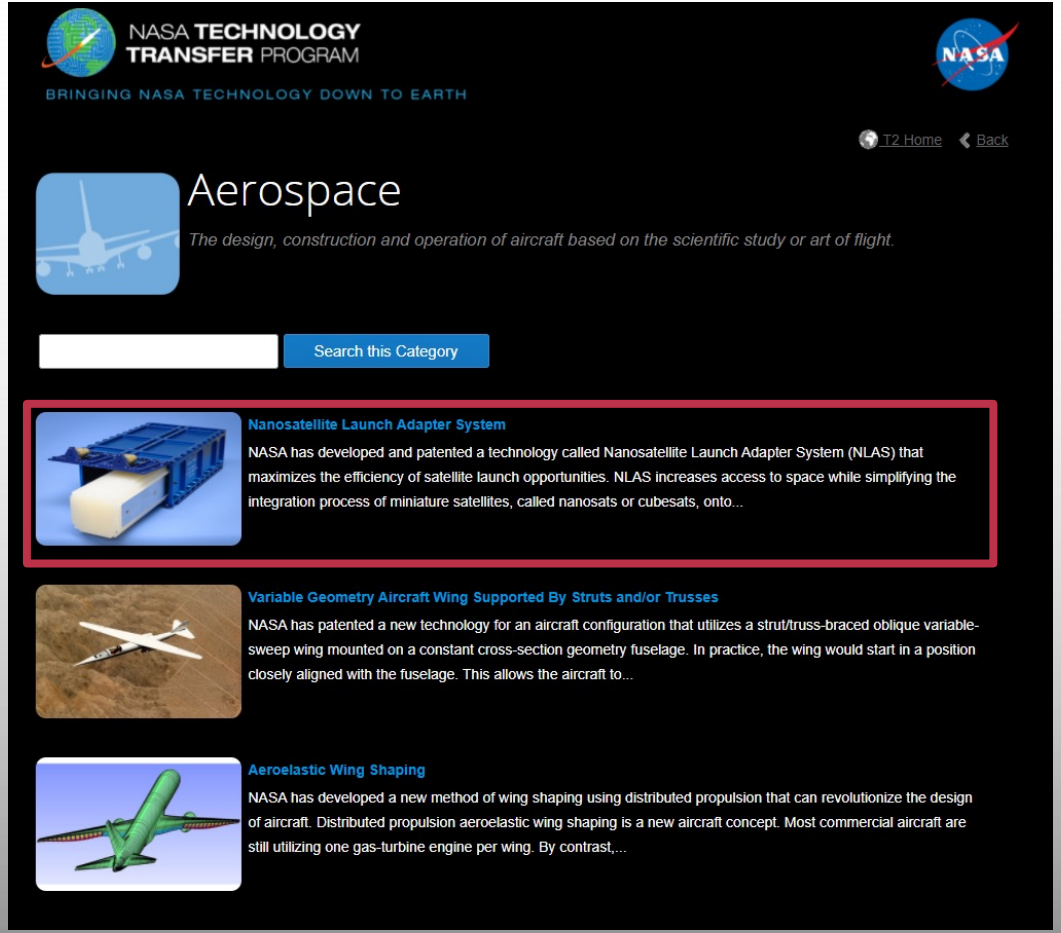
Patent Portfolio…

Browse 15 category areas of licensable technologies.

Let's explore the Aeronautics/Aerospace category

Patent Portfolio…

Searching technologies



As you can see, there will be many results in the categories you chose. We'll click on one technology to show the content.

Patent Portfolio…searching technologies

NASA TECHNOLOGY TRANSFER PROGRAM

Have questions about the technology?
Click the link to contact us.

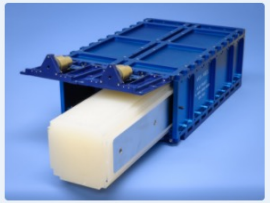
NASA TECHNOLOGY TRANSFER PROGRAM

BRINGING NASA TECHNOLOGY DOWN TO EARTH

T2 Home Back

Nanosatellite Launch Adapter System

Patent Only, No Software Available For License.



NASA has developed and patented a technology called Nanosatellite Launch Adapter System (NLAS) that maximizes the efficiency of satellite launch opportunities. NLAS increases access to space while simplifying the integration process of miniature satellites, called nanosats or cubesats, onto launch vehicles. Each complete NLAS consists of an adapter, four dispensers, and a sequencer. The adapter is mounted to the upper surface of the launch vehicle and the lower deck of the primary spacecraft. The dispensers are mounted inside the adapter and house a variety of cubesats in fully enclosed bays. NLAS is stackable, allowing for the expansion of spacecraft deployments. An NLAS sequencer can initiate a secondary sequencer, allowing for the expansion of actuator and deployment capability. NLAS provides an integrated system which meets the needs of nearly any mission. NLAS flight demonstration has shown the potential value of multiple, nanosatellites as tools for a wide array of scientific, commercial, and academic space research.

Apply Now to License This Technology!

Questions? Contact Us about this technology.

To find out more about how to license with NASA, please visit our licensing page.

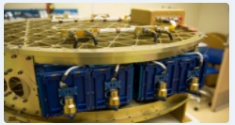
Benefits

- Utilizes unused launch vehicle mass and fairing volume
- User configurable deployment ejection timing sequences
- Up to 54kg/24U capacity
- Compatible with standard launch vehicle interfaces
- Internally powered
- P-POD compatible
- Reduced integration time and cost

Applications

- Cubesats
- Launch vehicles
- Secondary payloads
- P-PODs
- Nanosatellites
- Actuator Management
- Sequencing
- Multi-spacecraft missions
- Constellation spacecraft
- Deployers

The Technology



NLAS Combined System

NLAS consists of three configurable subsystems to meet the needs of a multi-spacecraft launch. The Adapter is the primary structure that provides volume for secondary payloads between the rocket and the primary spacecraft. The Adapter takes advantage of the frequently unused volume within the rocket fairing. It fits up to 4 NLAS Dispenser units, or 8 eight Poly-PicoSatellite Orbital Deployers (P-PODs), or any combination thereof. The NLAS Dispenser is reconfigurable to support either two 3U bays or a single 6U bay and is compatible with 1U, 1.5U, 2U, 3U, and 6U satellites. The Dispenser system is the first 6U deployment system backwards compatible to 3U spacecraft. Finally, the NLAS deployment Sequencer is an internally powered subsystem which accepts an initiation signal from the launch vehicle and manages the actuations for each deployment device per a user programmable time sequence. It is programmed using ground support equipment (GSE) and a simple graphical user interface (GUI) on a computer.

Download a PDF fact sheet for this technology.

Details

Category	Aerospace
Reference Number	TOP2-165
Case Number(s)	ARC-16732-1 ARC-16732-2
Patent(s)	9,994,336

Patent Portfolio…searching technologies

NASA TECHNOLOGY TRANSFER PROGRAM

To download a printable fact sheet, click on downloadable PDF.

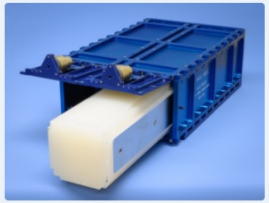
NASA TECHNOLOGY TRANSFER PROGRAM

BRINGING NASA TECHNOLOGY DOWN TO EARTH

T2 Home Back

Nanosatellite Launch Adapter System

Patent Only, No Software Available For License.



Apply Now to License This Technology!

Questions? Contact Us about this technology.

To find out more about how to license with NASA, please visit our licensing page.

NASA has developed and patented a technology called Nanosatellite Launch Adapter System (NLAS) that maximizes the efficiency of satellite launch opportunities. NLAS increases access to space while simplifying the integration process of miniature satellites, called nanosats or cubesats, onto launch vehicles. Each complete NLAS consists of an adapter, four dispensers, and a sequencer. The adapter is mounted to the upper surface of the launch vehicle and the lower deck of the primary spacecraft. The dispensers are mounted inside the adapter and house a variety of cubesats in fully enclosed bays. NLAS is stackable, allowing for the expansion of spacecraft deployments. An NLAS sequencer can initiate a secondary sequencer, allowing for the expansion of actuator and deployment capability. NLAS provides an integrated system which meets the needs of nearly any mission. NLAS flight demonstration has shown the potential value of multiple, nanosatellites as tools for a wide array of scientific, commercial, and academic space research.

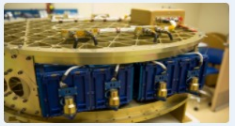
Benefits

- Utilizes unused launch vehicle mass and fairing volume
- User configurable deployment ejection timing sequences
- Up to 54kg/24U capacity
- Compatible with standard launch vehicle interfaces
- Internally powered
- P-POD compatible
- Reduced integration time and cost

Applications

- Cubesats
- Launch vehicles
- Secondary payloads
- P-PODs
- Nanosatellites
- Actuator Management
- Sequencing
- Multi-spacecraft missions
- Constellation spacecraft
- Deployers

The Technology



NLAS Combined System

NLAS consists of three configurable subsystems to meet the needs of a multi-spacecraft launch. The Adapter is the primary structure that provides volume for secondary payloads between the rocket and the primary spacecraft. The Adapter takes advantage of the frequently unused volume within the rocket fairing. It fits up to 4 NLAS Dispenser units, or 8 eight Poly-PicoSatellite Orbital Deployers (P-PODs), or any combination thereof. The NLAS Dispenser is reconfigurable to support either two 3U bays or a single 6U bay and is compatible with 1U, 1.5U, 2U, 3U, and 6U satellites. The Dispenser system is the first 6U deployment system backwards compatible to 3U spacecraft. Finally, the NLAS deployment Sequencer is an internally powered subsystem which accepts an initiation signal from the launch vehicle and manages the actuations for each deployment device per a user programmable time sequence. It is programmed using ground support equipment (GSE) and a simple graphical user interface (GUI) on a computer.

Download a PDF fact sheet for this technology.

Details

Category	Aerospace
Reference Number	TOP2-165
Case Number(s)	ARC-16732-1 ARC-16732-2
Patent(s)	9,994,336

Patent Portfolio…searching technologies

NASA TECHNOLOGY TRANSFER PROGRAM

Patent number hyperlinks to USPTO site.

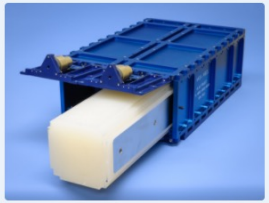
NASA TECHNOLOGY TRANSFER PROGRAM

BRINGING NASA TECHNOLOGY DOWN TO EARTH

T2 Home Back

Nanosatellite Launch Adapter System

Patent Only, No Software Available For License.



Apply Now to License This Technology!

Questions? Contact Us **about this technology.**

To find out more about how to license with NASA, please visit our licensing page.

NASA has developed and patented a technology called Nanosatellite Launch Adapter System (NLAS) that maximizes the efficiency of satellite launch opportunities. NLAS increases access to space while simplifying the integration process of miniature satellites, called nanosats or cubesats, onto launch vehicles. Each complete NLAS consists of an adapter, four dispensers, and a sequencer. The adapter is mounted to the upper surface of the launch vehicle and the lower deck of the primary spacecraft. The dispensers are mounted inside the adapter and house a variety of cubesats in fully enclosed bays. NLAS is stackable, allowing for the expansion of spacecraft deployments. An NLAS sequencer can initiate a secondary sequencer, allowing for the expansion of actuator and deployment capability. NLAS provides an integrated system which meets the needs of nearly any mission. NLAS flight demonstration has shown the potential value of multiple, nanosatellites as tools for a wide array of scientific, commercial, and academic space research.

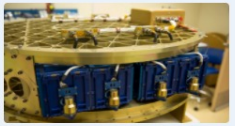
Benefits

- Utilizes unused launch vehicle mass and fairing volume
- User configurable deployment ejection timing sequences
- Up to 54kg/24U capacity
- Compatible with standard launch vehicle interfaces
- Internally powered
- P-POD compatible
- Reduced integration time and cost

Applications

- Cubesats
- Launch vehicles
- Secondary payloads
- P-PODs
- Nanosatellites
- Actuator Management
- Sequencing
- Multi-spacecraft missions
- Constellation spacecraft
- Deployers

The Technology



NLAS Combined System

NLAS consists of three configurable subsystems to meet the needs of a multi-spacecraft launch. The Adapter is the primary structure that provides volume for secondary payloads between the rocket and the primary spacecraft. The Adapter takes advantage of the frequently unused volume within the rocket fairing. It fits up to 4 NLAS Dispenser units, or 8 eight Poly-PicoSatellite Orbital Deployers (P-PODs), or any combination thereof. The NLAS Dispenser is reconfigurable to support either two 3U bays or a single 6U bay and is compatible with 1U, 1.5U, 2U, 3U, and 6U satellites. The Dispenser system is the first 6U deployment system backwards compatible to 3U spacecraft. Finally, the NLAS deployment Sequencer is an internally powered subsystem which accepts an initiation signal from the launch vehicle and manages the actuations for each deployment device per a user programmable time sequence. It is programmed using ground support equipment (GSE) and a simple graphical user interface (GUI) on a computer.

Download a PDF fact sheet for this technology.

Details

Category	Aerospace
Reference Number	TOP2-165
Case Number(s)	ARC-16732-1 ARC-16732-2
Patent(s)	9,994,336

Patent Portfolio…searching technologies

NASA TECHNOLOGY TRANSFER PROGRAM

USPTO PATENT FULL-TEXT AND IMAGE DATABASE

Home | Quick | Advanced | Pat Num | Help | Bottom | View Cart | Add to Cart | Images

(1 of 1)

United States Patent
Ghassemieh , et al.

9,994,336
June 12, 2018

System and methods for deploying payloads

Abstract

Embodiments of the present invention include systems for launching primary or secondary payloads or actuating other launch vehicle or payload or instrumentation devices. The system includes an adapter assembly and at least one sequencer mounted to the adapter assembly. The sequencer includes: controller boards, each of the controller boards having a controller for controlling deployment of the payloads and data files; output ports coupled to the controller boards and configured to transmit signals from the controller boards to dispensers therethrough, deployment mechanisms containing the payloads, the adapter assembly having channels for accommodating the dispensers; and a detector coupled to the controller boards and adapted to detect an external signal and, in response to the external signal, to send an initiation signal to the controller boards. The system also includes at least one power supply coupled to the sequencer and adapted to provide an electrical power to the sequencer.

Inventors: **Ghassemieh; Shakib M.** (Santa Clara, CA), **Ricks; Robert D.** (Newark, CA), **Friedericks; Charles R.** (San Jose, CA), **Mai; Nghia** (San Jose, CA), **Hines; John W.** (Sunnyvale, CA), **Brownston; Lee S.** (Palo Alto, CA), **Ross; Shannon S.** (Campbell, CA)

Applicant:	**Name**	**City**	**State**	**Country**	**Type**
	The United States of America as Represented by the Administrator of the National Aeronautics & Space Administration (NASA)	Washington	DC	US	

Assignee: **The United States of America as Represented by the Administrator of NASA** (Washington, DC)

Family ID: **62485814**
Appl. No.: **13/573,924**
Filed: **March 14, 2013**

It's important to review patent information and all claims to be sure the technology meet your needs.

Claims

What is claimed is:

1. A sequencer for deploying one or more payloads, comprising: a plurality of controller boards, each of the controller boards having a controller for controlling deployment of payloads and a plurality of data files; a power supply coupled to the plurality of controller boards and adapted to provide an electrical power to the plurality of controller boards; a plurality of output ports coupled to the plurality of controller boards and configured to transmit signals from the plurality of controller boards to dispensers containing the payloads therein; a detector coupled to the plurality of controller boards and adapted to detect an external signal and, in response to the external signal, to send an initiation signal to the plurality of controller boards; and a connection port for connecting a plurality of sequencers together in a daisy chain, wherein the detector of the sequencer is adapted to send the initiation signal to the plurality of sequencers, and wherein one controller is able to check integrity of a data file of the plurality of data files and the other controller is able to check integrity of an identical data file and wherein at least one controller is able to halt controlling the deployment of the payloads when a mismatch between the data file checked by one controller and the data file checked by the other controller is detected.

2. A sequencer for deploying one or more payloads, comprising: a plurality of controller boards, each of the controller boards having a controller for controlling deployment of payloads and a plurality of data files; a power supply coupled to the plurality of controller boards and adapted to provide an electrical power to the plurality of controller boards; a plurality of output ports coupled to the plurality of controller boards and configured to transmit signals from the plurality of controller boards to dispensers containing the payloads therein; a detector coupled to the plurality of controller boards and adapted to detect an external signal and, in response to the external signal, to send an initiation signal to the plurality of controller boards; and a connection port for connecting a plurality of sequencers together in a daisy chain, wherein the detector of the sequencer is adapted to send the initiation signal to the plurality of sequencers, wherein the controller boards include electronics which consume less than 500 .mu.A in their quiescent state, and wherein the power supply includes at least one of a battery pack, a bank of capacitors, and a combination thereof and wherein the power supply activates deployment of the payloads and is electrically isolated from the launch vehicle.

3. A sequencer as recited in claim 2, wherein the detector is adapted to detect a light emitted from an opto-isolator powered by a launch vehicle and wherein the opto-isolator is activated by a launch vehicle that carries the sequencer, wherein the detector of the sequencer is electrically isolated from the opto-isolator of the launch vehicle.

4. A sequencer as recited in claim 3, wherein the detector is configured to detect light emitted from the opto-isolator powered in a range of voltages, 5V to 60V depending of the power system of a launch vehicle that carries the sequencer.

5. A sequencer as recited in claim 2, further comprising: a first oscillator for providing a first system clock signal at a first frequency; the first oscillator performing schedule services while the sequencer is asleep; and a second oscillator for providing a second system clock signal at a second frequency; the second oscillator performing instruction processing while the sequencer is awake, wherein the first frequency is lower than the second frequency and the controller uses the first system clock signal until the initiation signal is received to thereby minimize consumption of the electrical power.

Description

BACKGROUND OF INVENTION

A. Technical Field

The present invention relates to spacecraft launch systems, more particularly, to systems for launching payloads.

B. Description of the Prior Art

Access to space has continually been an area of concern for a number of space agencies, both in terms of numbers of launch opportunities and costs associate with space lift. Traditional launch campaigns tend to be unique and require a significant amount of nonrecurring engineering expense, sustaining a high cost structure. One conventional innovation surrounds the emergence of low-cost launch vehicles in the space lift marketplace. Relatively new entrants and existing companies are making significant inroads into the cost component associated with launch vehicle production and operation. There are other companies in earlier stages of development that also may potentially add to this equation.

For the past 5 to 6 years, the willingness and ability of major launch programs to accommodate smaller platforms as rideshares stimulated an emerging smallsat/nanosat spacecraft market, attracting high level interest from both the scientific and operational space communities. The small satellite community has greatly increased in size over the last decades, creating a need for a system that can most efficiently use the space available on launch vehicles.

The sharing of launch vehicles has some unique characteristics that need to be addressed in the hardware development. The most important consideration needs to be in protecting the primary spacecraft that the rocket (or, equivalently, launch vehicle) is being used for. This means that both for integration and during spacecraft deployment, the secondary payload systems need to be completely independent and have numerous safeties in place to ensure that no adverse circumstances are created for the primary spacecraft.

Accordingly, there is a need for improved systems for launching smallsat/nanosat spacecrafts that are able to protect the primary spacecrafts from additional risks from the ridesharing launches and providing consistent deployment of the smallsat/nanosat spacecrafts.

SUMMARY OF THE INVENTION

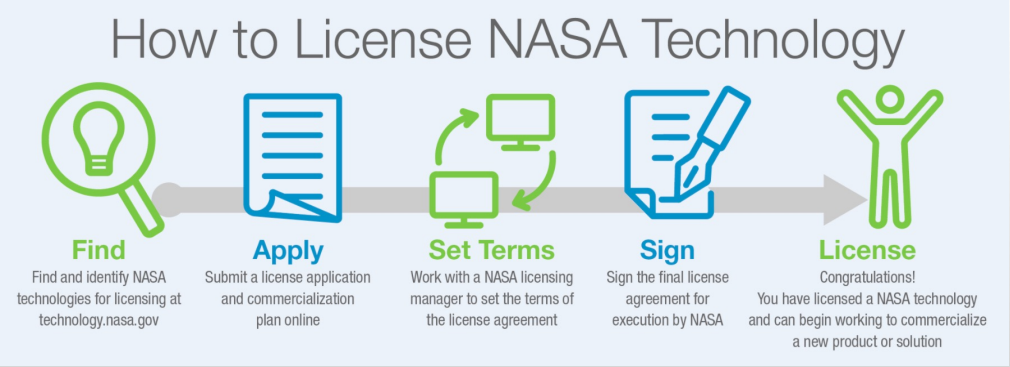
In embodiments, a sequencer for deploying payloads includes: controller boards, each of the controller boards having a controller for controlling deployment of the payloads and data files; a power supply coupled to the controller boards and adapted to provide electrical power to the controller boards; output ports coupled to the controller boards and configured to transmit signals from the controller boards to deployment mechanisms or actuating devices containing the payloads therethrough; and a detector coupled to the controller boards and adapted to detect an external signal and, in response to the external signal, to send an initiation signal to the plurality of controller boards.

In embodiments, a system for launching payloads includes an adapter assembly and at least one sequencer mounted to the adapter assembly. The sequencer includes: controller boards, each of the controller boards having a controller for controlling deployment of the payloads and data files; output ports coupled to the controller boards and configured to transmit signals from the controller boards to deployment mechanisms or actuating devices containing the payloads therethrough, the adapter assembly having channels for accommodating the dispensers; and a detector coupled to the controller boards and adapted to detect an external signal and, in response to the external signal, to send an initiation signal to the controller boards. The system also includes at least one power supply contained in the sequencers and adapted to provide electrical power to the sequencer.

Applying for a License

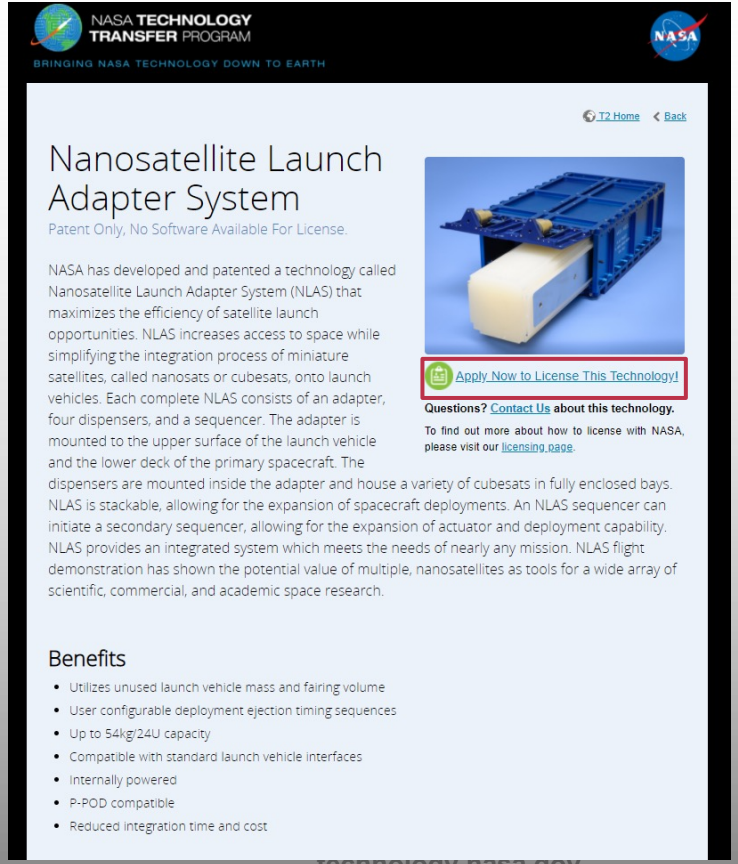
NASA TECHNOLOGY TRANSFER PROGRAM

https://technology.nasa.gov/license



*** Your company must be legally formed in order to apply for a license**

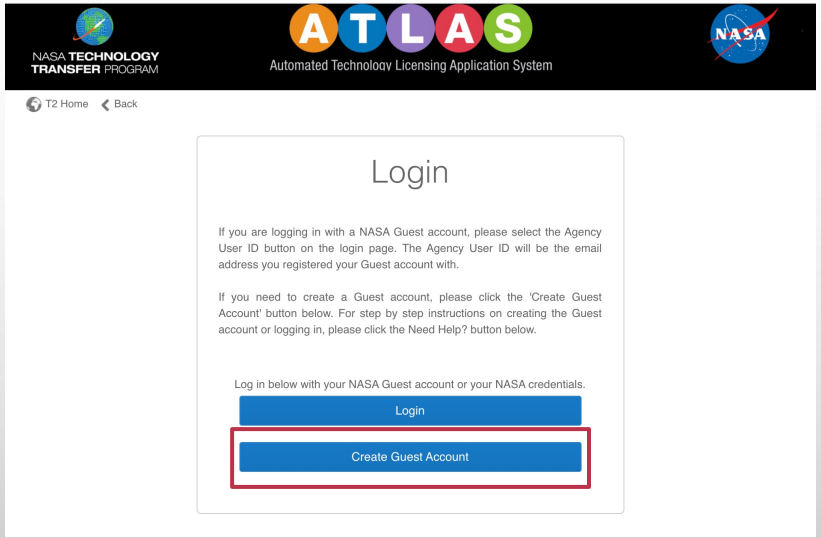
Click "Apply Now To License This Technology!"



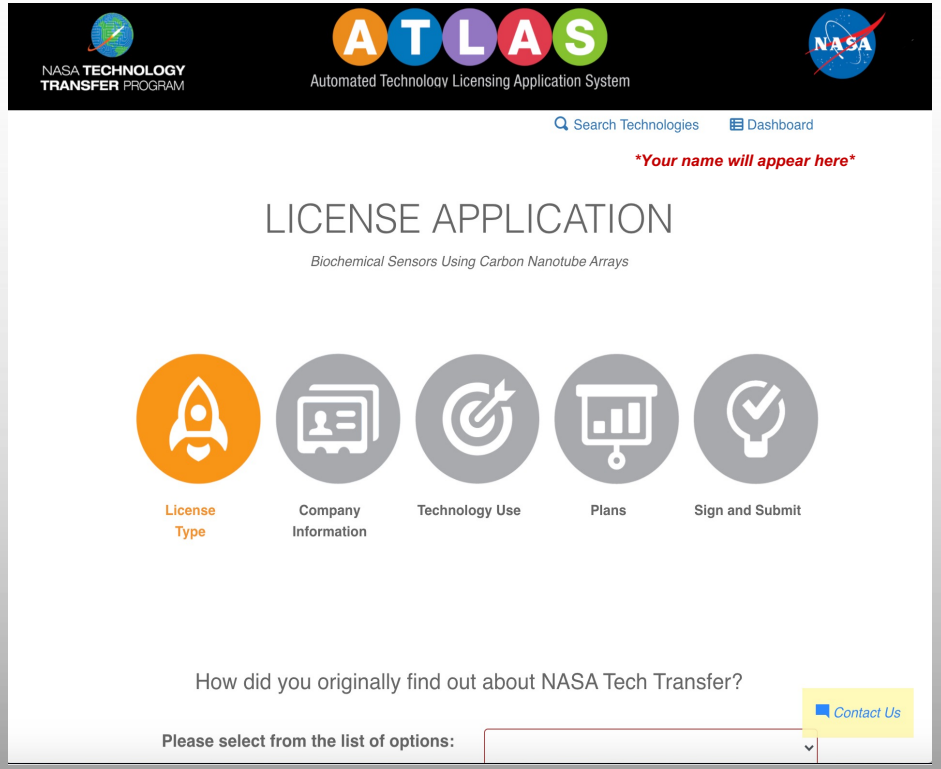
Applying for a License…application process

NASA TECHNOLOGY TRANSFER PROGRAM

Create a Guest Account, if you do not have one yet.



Once your account is created, the license application page should open. The first step is selecting License Type.



Applying for a License…application process

NASA TECHNOLOGY TRANSFER PROGRAM

License Agreement Types

Evaluation

NASA offers an "Evaluation License" option that will allow you short-term permission to explore the potential of a technology and learn if it will fit into your business development goals. An evaluation license is also required if you intend to enter into an agreement to have NASA conduct testing on the technology on your behalf. *(no cost eval license is available if you're using tech for SBIR)*

Start Up

By offering a license with no up-front costs for commercial use of our patented technologies, we're letting companies hold onto their cash while securing the intellectual property needed to carve out competitive market space. *(Requires a full business plan…)*

Commercial

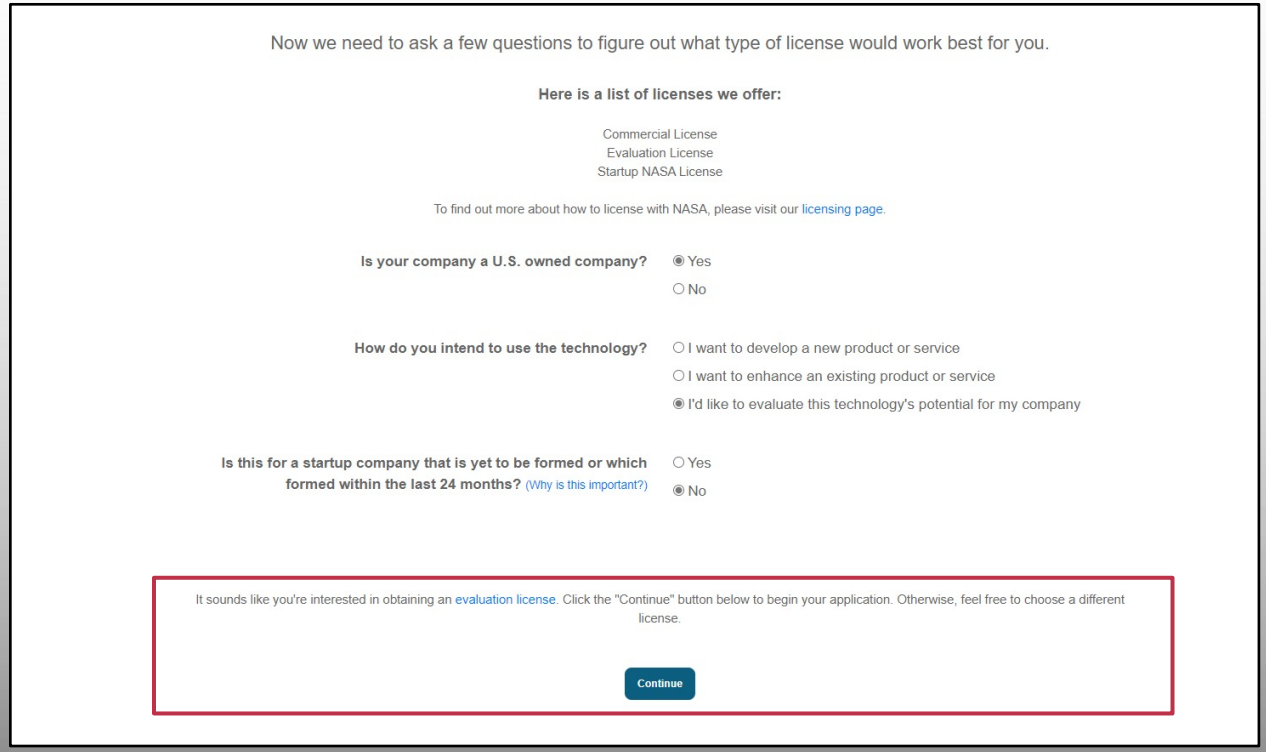
NASA offers a "Standard Commercial License" for companies to make and sell products using NASA's patented technologies. While NASA offers standard licensing templates, each can be negotiated on a case-by-case basis. *(requires a full biz plan - need to know that you understand the technology)*

Applying for a License…application process

The last few questions on the first section (below) of the application will determine your license type (Startup, Evaluation, Commercial). **Before you advance to the next section, check the bottom of the page to confirm that your intended license type is listed.**

Complete the rest of the application **with as much detail as possible**. Click "submit" on the last page and be sure to **complete the Adobe e-signature process** that follows.

Once you have e-signed the PDF correctly your application is submitted, and you will receive a confirmation email that your application has been submitted.



NASA Software Catalog

NASA TECHNOLOGY TRANSFER PROGRAM

FREE software available:

https://software.nasa.gov/

Release Types

- **Government Purpose**
- **General Purpose**
  - U.S. Only
  - U.S. and Foreign
  - Public
- **Open Source**
  https://code.nasa.gov/

**All, but Open Source require a Software Usage Agreement (SUA); apply for free, online.*

TOP Number	Title	TOP Category	Website
TOP2-162	**Transformable Hypersonic Aerodynamic Decelerator**	Aeronautics	https://technology.nasa.gov/patent/TOP2-162
TOP2-165	**Nanosatellite Launch Adapter System**	Aeronautics	https://technology.nasa.gov/patent/TOP2-165
TOP2-274	**Affordable Vehicle Avionics (AVA)**	Aeronautics	https://technology.nasa.gov/patent/TOP2-274
TOP2-253	**Heterogeneous Spacecraft Networks**	Communications	https://technology.nasa.gov/patent/TOP2-253
TOP2-248	**Space Optical Communications Using Laser Beams**	Communications	https://technology.nasa.gov/patent/TOP2-248
TOP2-287	**Fine-pointing Optical Communication System Using Laser Arrays**	Communications	https://technology.nasa.gov/patent/TOP2-287
TOP2-167	**Woven Thermal Protection System**	Manufacturing	https://technology.nasa.gov/patent/TOP2-167
TOP2-262	**Multispectral Imaging, Detection, and Active Reflectance (MiDAR)**	Optics	https://technology.nasa.gov/patent/TOP2-262
TOP2-284	**Fluid Lensing System for Imaging Underwater Environments**	Optics	https://technology.nasa.gov/patent/TOP2-284
TOP2-213	**Monitoring and Control of Each Nanosatellite within a Cluster of Nanosatellites**	Robotics, Automation and Control	https://technology.nasa.gov/patent/TOP2-213
TOP2-265	**Low Cost Star Tracker Software**	Robotics, Automation and Control	https://technology.nasa.gov/patent/TOP2-265
TOP2-267	**Cost Optimized Test of Spacecraft Avionics and Technologies(COTSAT) Modular Spacecraft Software Architecture**	Robotics, Automation and Control	https://technology.nasa.gov/patent/TOP2-267

Resources

NASA TECHNOLOGY TRANSFER PROGRAM

Technology Transfer Program Overview - https://technology.nasa.gov/

How to License Technology - https://technology.nasa.gov/license

NASA Patents - https://technology.nasa.gov/patents

Free Software - https://software.nasa.gov/

SBIR/STTR - https://sbir.nasa.gov/

Success Stories - https://spinoff.nasa.gov/

NASA Home and City - https://homeandcity.nasa.gov/

Kim Hines, Chief
kimberly.k.hines@nasa.gov

Jay Singh, Technology Portfolio Manager
jayinder.singh@nasa.gov

What is left “undone” in your company that you might search NASA technology for a solution?