



INNOVATIVE SOLUTIONS IN SPACE

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## THE NANOSATELLITE SPECIALIST

10+ 

years in space  
6 Jan 2006 to date

> 75 

employees

> 30 

CubeSat products

1kg 

lightest satellite

25kg 

heaviest satellite

### OUR VISION

We foresee the space sector to move towards the next phase of industrialization in the coming decade, from a pioneering stage into a mature market where building, designing, operating space infrastructure, and providing space-enabled services is an integral part of the world's high-tech and data centric industry.

### OUR MISSION

It is our mission to provide cost-effective space systems and turn-key missions by using nanosatellites and small microsatellites. ISIS aims to establish itself as the leading industrial player in this field, with a de-facto nanosatellite factory to serve the growing needs for rapid turnaround, cost-effective solutions.

### OUR VALUES

ISIS is committed to innovation and will continue to challenge any status quo in the space sector. We believe that providing open communication and a team that is pro-active and empowered are essential to our success. We are committed to excellence in our technical products and in serving our customers.

# WHO WE ARE

## FOCUS & CAPABILITIES

### ABOUT US

Founded in 2006 as a spin-off from the Delfi-C3 nanosatellite project from Delft University of Technology, ISIS is one of the leading companies in the fast growing small satellite market.

The company is a vertically integrated company and combines research and development, testing, launch, and operation of small space systems in a single organization. ISIS operates globally and serves a variety of customers in accomplishing their projects and space missions.

### FOCUS

ISIS is primarily focused on solutions involving satellite systems in the range of 1 to 30 kilograms, although sometimes we use our expertise in different application domains.

### CORE COMPETENCIES

- Multidisciplinary teamwork
- Space systems engineering
- Miniaturized systems
- Deployable systems and mechanisms
- End-to-end space systems capability



### History

2006	ISIS was established	First CubeSat product on the market	2007
2008	Successful launch of Delfi-C3 satellite	ISIS launches CubeSatShop.com, launch and data subsidiaries	2009
2010	ISIS cleanroom and ground station established	ISIS grows to more than 25 staff and sells multiple satellite missions	2011
2012	ISIS keeps growing and delivering products and services	First fully owned ISIS satellite for ship tracking launched	2013
2014	ISIS launches 22 satellites and builds 2 satellites in 6 months	ISIS QuadPack satellite dispenser sees record sales	2015
2016	ISIS receives the spacecraft operating license	ISIS launches 101 cubesats on a single launch	2017

• Multidisciplinary team of over 75 highly skilled employees with more than 20 nationalities in Delft, The Netherlands

• Overseas office in Somerset West, South Africa

# CAPABILITIES

## ONE-STOP-SHOP FOR SMALL SPACE SYSTEMS

### **VERTICALLY INTEGRATED COMPANY**

ISIS has been set up as a vertically integrated company with a strong focus on systems engineering in order to be able to support our customers during satellite missions throughout the lifecycle. The company is active in research projects and has its own product development activities and product lines across every major space subsystem category. Using these products as building blocks, ISIS is able to offer complete satellite solutions including launch services, ground segment and operations.

### **INTEGRATED SMALL SATELLITE FACILITIES**

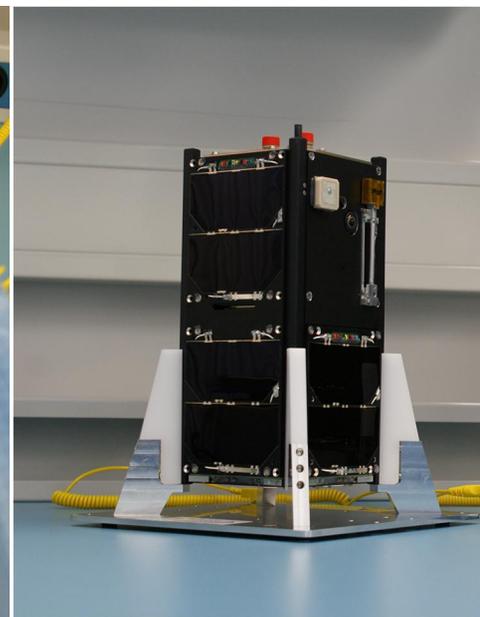
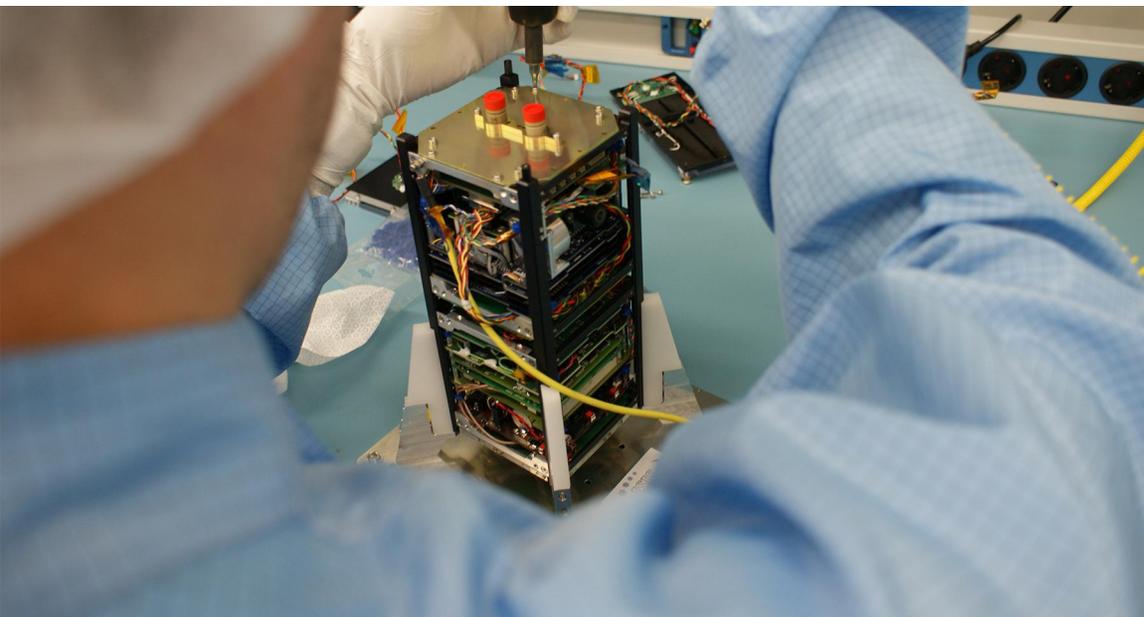
The company combines its team with integrated facilities for small satellite missions including

development labs, workshops, assembly labs, an integration cleanroom, dedicated environmental testing facilities and a satellite control room.

### **MULTIDISCIPLINARY TEAM**

ISIS team is able to support diverse projects with:

- Space Systems Engineering and Mission Analysis
- Radiofrequency Engineering
- Electronics Engineering
- Mechanical and Thermal Engineering
- Software Engineering
- Attitude and Orbit Control Engineering
- Payload Integration Expertise
- MAIV Expertise
- Satellite Launch Expertise



• Full life-cycle support for small satellite missions

• Integrated, multidisciplinary design and development teams

## LAUNCH SERVICES TRACK RECORD

**177**   
satellites launched

**6**   
different vehicles

**12**   
launches from 5 sites

**100%**   
success rate

### SATELLITE MISSIONS

ISIS provides turn-key space solutions for both governmental and commercial customers around the globe. Leveraging our vertically integrated organization we are able to deliver timely solutions tailored to our customer needs. As a rule, we are able to deliver small satellites ready for launch in 6 to 18 months.

### PAYLOAD DEVELOPMENT AND INTEGRATION

ISIS can develop the intended payload for the spacecraft using its own payload development team or by teaming up with specialized partners. Alternatively, we can assist our customers in placing their own miniaturized payloads into our spacecraft.

### LAUNCH

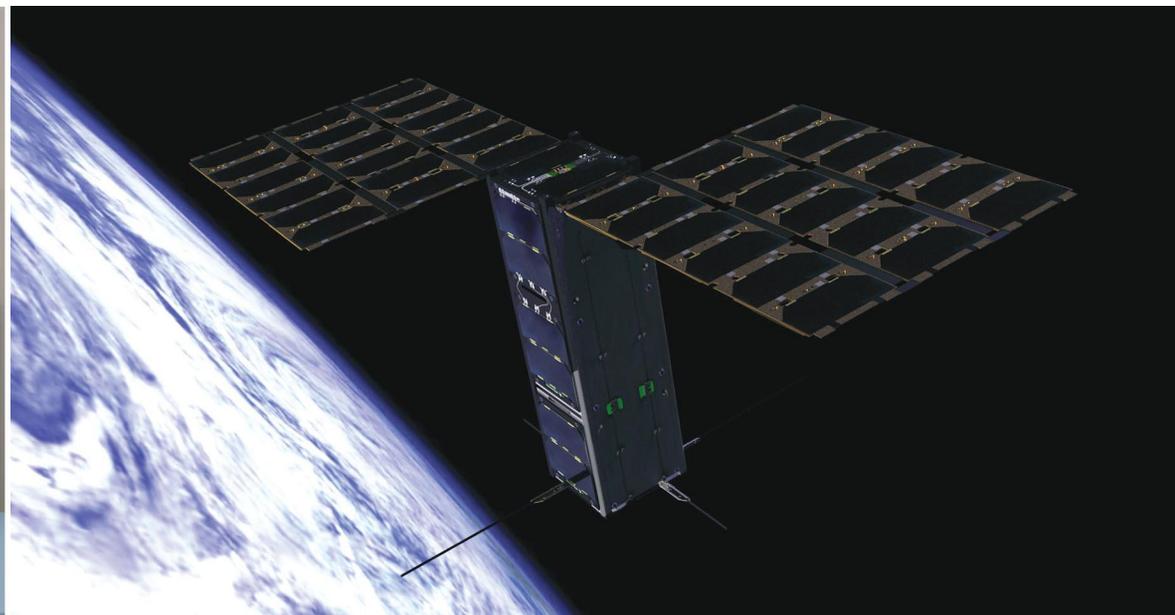
Given our track record in providing launch services to the small satellite community, ISIS' one-stop-shop solutions include orbital delivery of the spacecraft.

### COMMISSIONING AND OPERATIONS SUPPORT

ISIS often provides a hybrid solution with respect to satellite operations as part of its satellite solutions. Our own satellite operations engineers are in charge of the spacecraft during the first period in orbit and take care of commissioning the spacecraft. Once it is ready for performing its main mission, control is often handed over to the customer.



- Satellite solutions in the range of 1kg to 30kg



- We can support multiple satellites in parallel with our multi-mission operations center

# PRODUCTS AND LAUNCH SERVICES

## IT'S OUR MISSION TO LAUNCH YOURS

### ISIS PRODUCT PORTFOLIO

In the past decade, ISIS has built up a broad product and subsystems portfolio for CubeSats and nanosatellites. ISIS has more than 20 different product lines covering small satellite subsystems, ground support equipment, satellite dispensers and ground stations. ISIS satellite subsystems are highly standardized and typically available as an off-the-shelf item at fixed prices and standardized lead times. We have an excellent track record with dozens of units successfully launched into orbit every year.

### SPACECRAFT BUSES AND PLATFORMS

ISIS also delivers integrated avionics, spacecraft

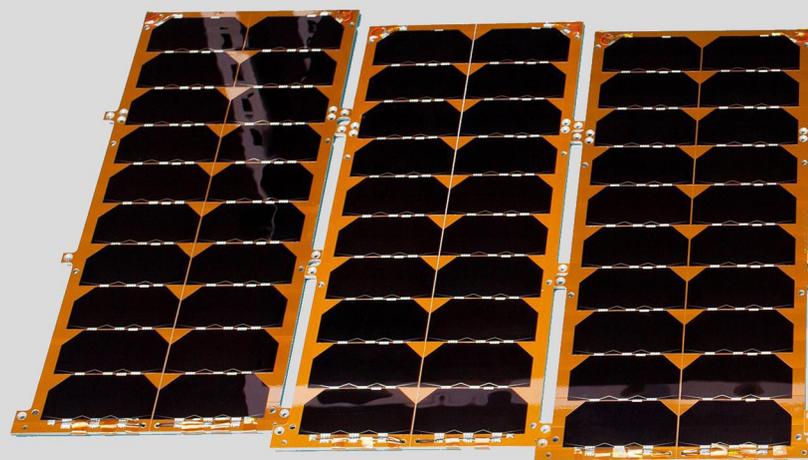
buses or complete standalone platforms, for customers with their own space mission implementation and integration capabilities or ambitions.

### CUBESATSHOP.COM

Since 2009, ISIS operates an online portal for standardized CubeSat parts and components, [www.cubesatshop.com](http://www.cubesatshop.com). On this website all of ISIS' standard products can be found, together with a large number of the components that other developers of standardized products have on offer.



- ISIS has more than 20 standardized small satellite product lines



- If a standard solution does not suit your needs ISIS is able to provide customized versions of its products

## PRODUCTS



Antenna systems



Attitude control systems



Command data handling



Communication systems



CubeSat deployers



CubeSat structures



Solar panels



Generic engineering model



Ground support equipment



Ground stations

### SMALL SATELLITE LAUNCH SERVICES

Since 2007, ISIS has been carrying out numerous successful launch campaigns for small satellites through its launch services subsidiary Innovate Space Logistics (ISL) and it is one of the leading players in the small satellite launch business. To date, ISIS and ISL have executed or supported more than 10 launch campaigns on various launch vehicles, successfully sending more than 50 satellites into orbit.

### SATELLITE DEPLOYMENT SYSTEMS

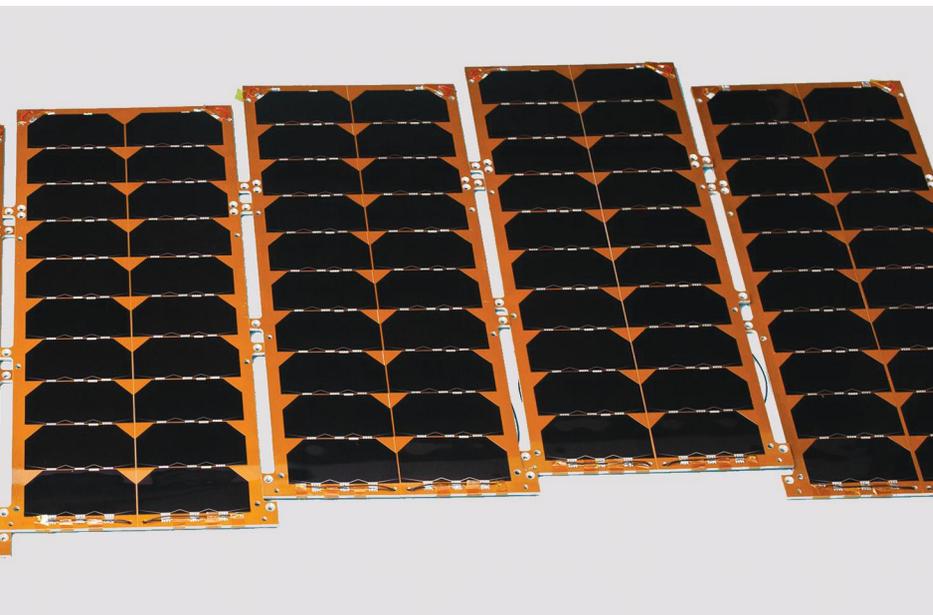
ISIS has developed great expertise and heritage

in launch vehicle accommodation and various deployment systems for small satellites.

The company offers a range of standardized CubeSat dispensers as well as customized solutions for non-CubeSat customers.

### ISILAUNCH SERVICES INCLUDE:

- Launch contracting and coordination
- Complete launch campaign management
- Interface and document control
- Environmental test campaign support
- Launch adapters, deployers and hardware
- Logistics planning and coordination
- Launch vehicle integration



ISIS is able to provide both single items and large quantities



ISIS operates small satellite launches on many launch vehicles

# ADDITIONAL SERVICES AND TRAINING PROGRAMMES

## ADDITIONAL SERVICES

Given our vertically integrated organization, we have many competences and capabilities available in-house that are also interesting for others as stand-alone services, or as an add-on to some of our products and launch services activities. For many years we are able to help our customers with such additional services and this has become one of our key strengths.

We are often able to link customers with more specialized organizations from our network, be it R&D organizations or non-technical service providers for launch insurance.

## SELECTION OF AVAILABLE SERVICES

- Contract research
- Payload development
- Built-to-print of flight hardware
- Environmental test services
  - Vibration testing
  - Mechanical shock testing
  - Mass properties measurements
  - Thermal vacuum testing
  - Thermal cycling
  - EMC testing
- Technical consulting on Small Space Missions



• ISIS can assist you to design, build or test your own products

### **TRAINING AND HUMAN CAPITAL DEVELOPMENT**

ISIS recognizes the need for training and knowledge transfer for its customers to maintain or further develop their position in the space domain. Over the past years we have developed a number of standardized training and support modules that we can offer to customers. Of course, we are also able to specifically tailor our offerings to specific needs. When needed, we have a strong network of specialized partners, including academic institutes, to optimally serve our customers.

### **STANDARDIZED TRAINING OPTIONS**

- Space Systems Engineering training
- CubeSat Mission Design and Development
- Spacecraft Operations
- Dedicated Training Hardware Solutions

### **HUMAN CAPITAL DEVELOPMENT**

- Tailored programmes based on your needs
- Coaching and support to customer teams
- Support in establishing local labs and facilities
- Options for on-the-job training at ISIS



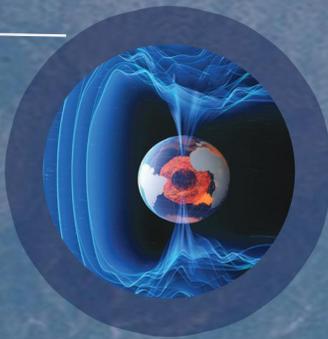
- ISIS provides training courses both in Delft and at the customers' location

# APPLICATIONS

## WHAT WE CAN DO FOR YOU

### Earth sciences

Nanosatellites for better understanding our own planet



### Pipeline monitoring

Monitor critical infrastructure using satellites



### Ship tracking services

Near real time vessel tracking using satellite-AIS



### Climate monitoring

Networks of satellites to monitor climate change



### Space research

Small scale astronomy and exploration missions



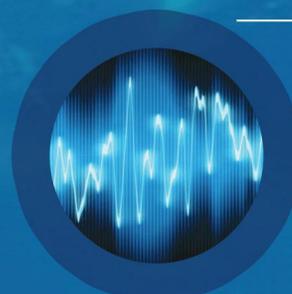
### Aircraft tracking services

Keeping track of aircraft on a global scale using ADS-B



### Signal intelligence

Use small satellites to ensure the security of your nation



Whatever you would like to achieve, if it involves small satellites, ISIS is well positioned to support you in achieving your objectives. Whether you are working on training a next generation of engineers, performing small scale science missions or planning a novel application using a globe-spanning constellation, we are ready to support you.



**Education and training**  
Train the next generation of scientists and engineers



**Telecommunications**  
Provide global connectivity using small satellites



**Technology validation**  
Test your latest technologies onboard a small satellite



**Microgravity research**  
Use the space environment to gain new insights



**Earth observation**  
Provide real-time imaging capability with satellite swarms



**Agriculture monitoring**  
Improve crop production using remote sensing data



GET IN TOUCH



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