A Website to Support Nanosatellite Components Exporting to Overseas

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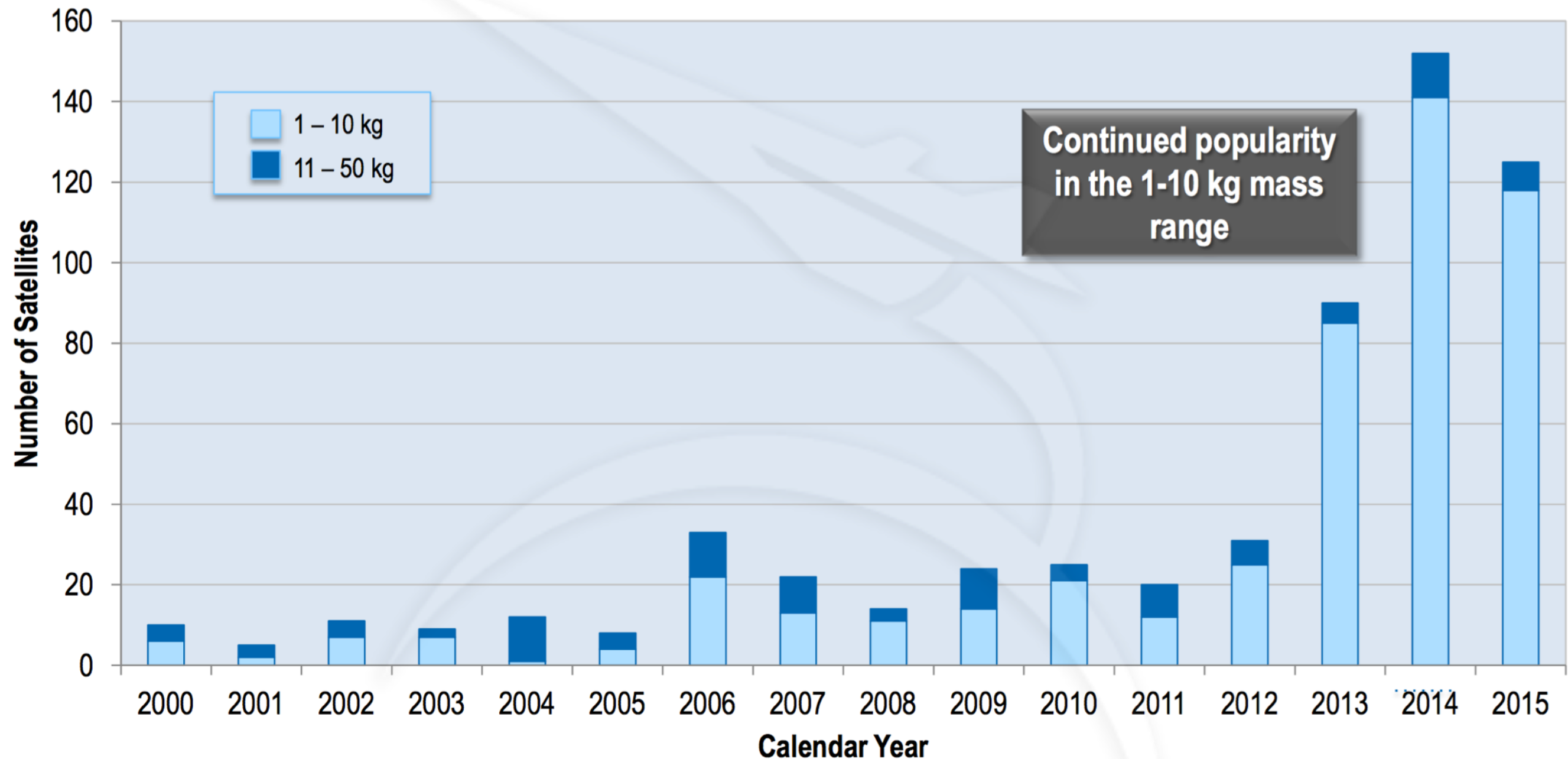Kazuhiro Maekawa, Noriaki, Oka(Japan Space Systems)

Outline

- Introduction

- Pre-research

- Project overview

- Results of initial operation
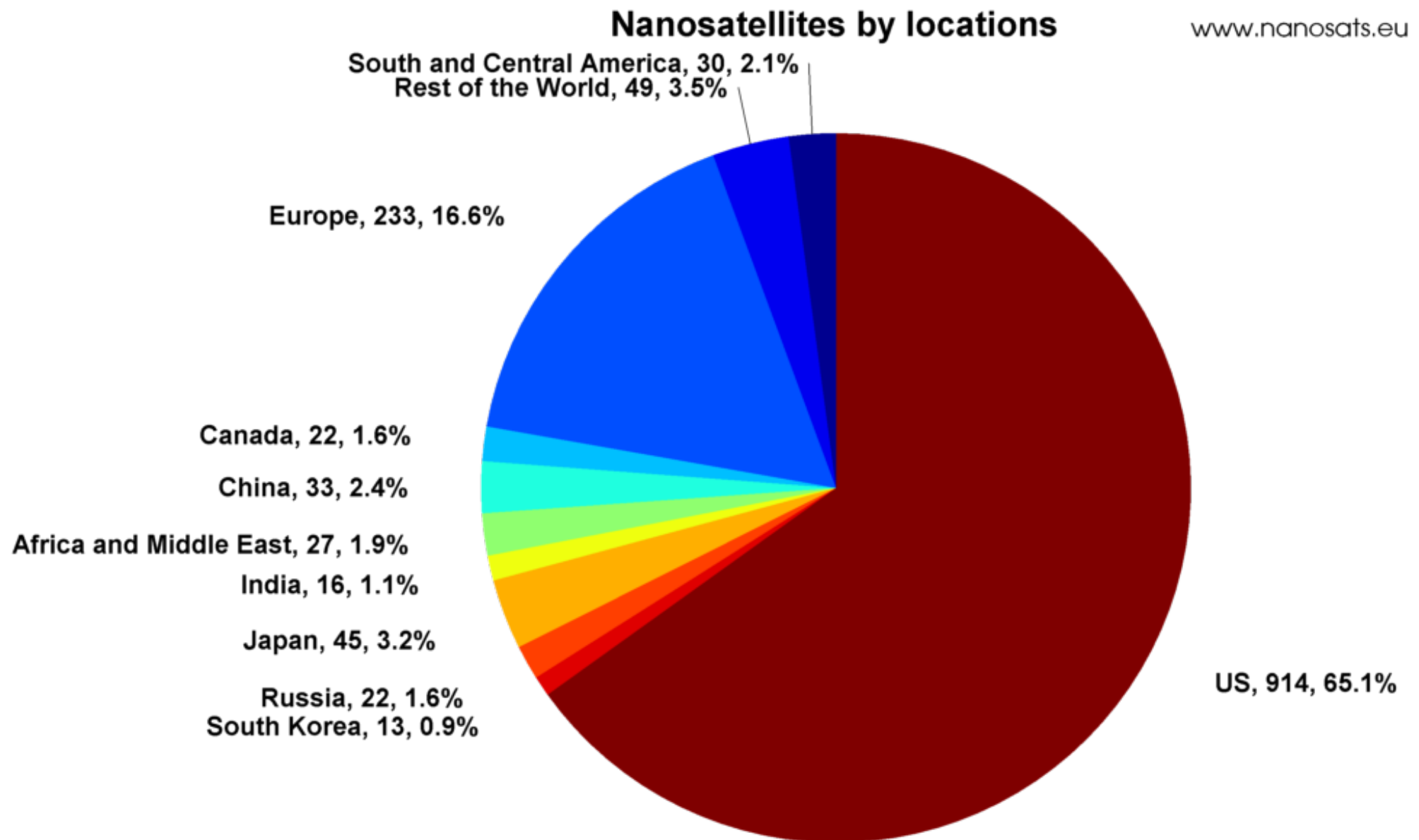
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Introduction

Growing the launch of nanosatellites

In recent few years, over 100 nanosatellites are launched per year.

2016 Nano/Microsatellite Market Forecast, SPACEWORKS ENTERPRISES, INC.,

Small satellites in Japan

Nanosatellites by locations   www.nanosats.eu

South and Central America, 30, 2.1%
Rest of the World, 49, 3.5%
Europe, 233, 16.6%
Canada, 22, 1.6%
China, 33, 2.4%
Africa and Middle East, 27, 1.9%
India, 16, 1.1%
Japan, 45, 3.2%
Russia, 22, 1.6%
South Korea, 13, 0.9%
US, 914, 65.1%

- 38 small satellites are launched until 2016

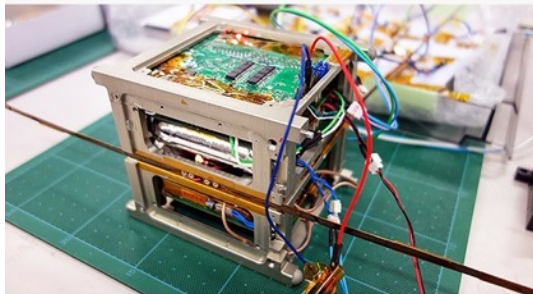- The second most in the world following the USA.

Source: www.nanosat.eu

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Manufacturers in Japan

Nishi Musen

UHF/VHF Transceiver

First model has been running for 13 years from 2003.

(Used in XI-IV developed by Tokyo University)

Spaceshift

Artsat Kit

1U Cubesat kit based on ARTSAT-1 demonstrated in space

Tamagawa Seiki

Reaction Wheel

5 satellites used and demonstrated it in space

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Motivation

- Domestic market size is limited

- Almost manufactures are small or mid-size business and space is not main business

- Only few companies have sales channels for overseas

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Purpose of this project

- To support overseas sales for manufacturers

- To build and operate e-commerce platform for satellite components

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Results of pre-research

Interview on issues

Issues for overseas sales listed by manufactures in below

- **Products are not well known**   Publicity

- Price competitiveness

- Uncertainty of business model

- **Resources for sales and customer support**

- **Knowledge about lows and regulations**

- **Language**

Resource

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Existing websites

Company	URL	Payment	Support
Innovative Solutions in Space	http://www.cubesatshop.com/	Wire Transfer, Check	
Clyde Space	https://www.clyde.space/	Credit Card	Mail
GomSpace	http://gomspace.com/	Bank Transfer	
PocketQubeShop	http://www.pocketqubeshop.com/	Credit Card, Paypal	
CubeSat kit	http://www.cubesatkit.com/	Credit Card, Formal Purchase Order	Mail
Space Quest	http://www.spacequest.com/	-	
Makesat (Our website)	https://makesat.com	-	Mail

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Overview of this project and website

Operation Scheme
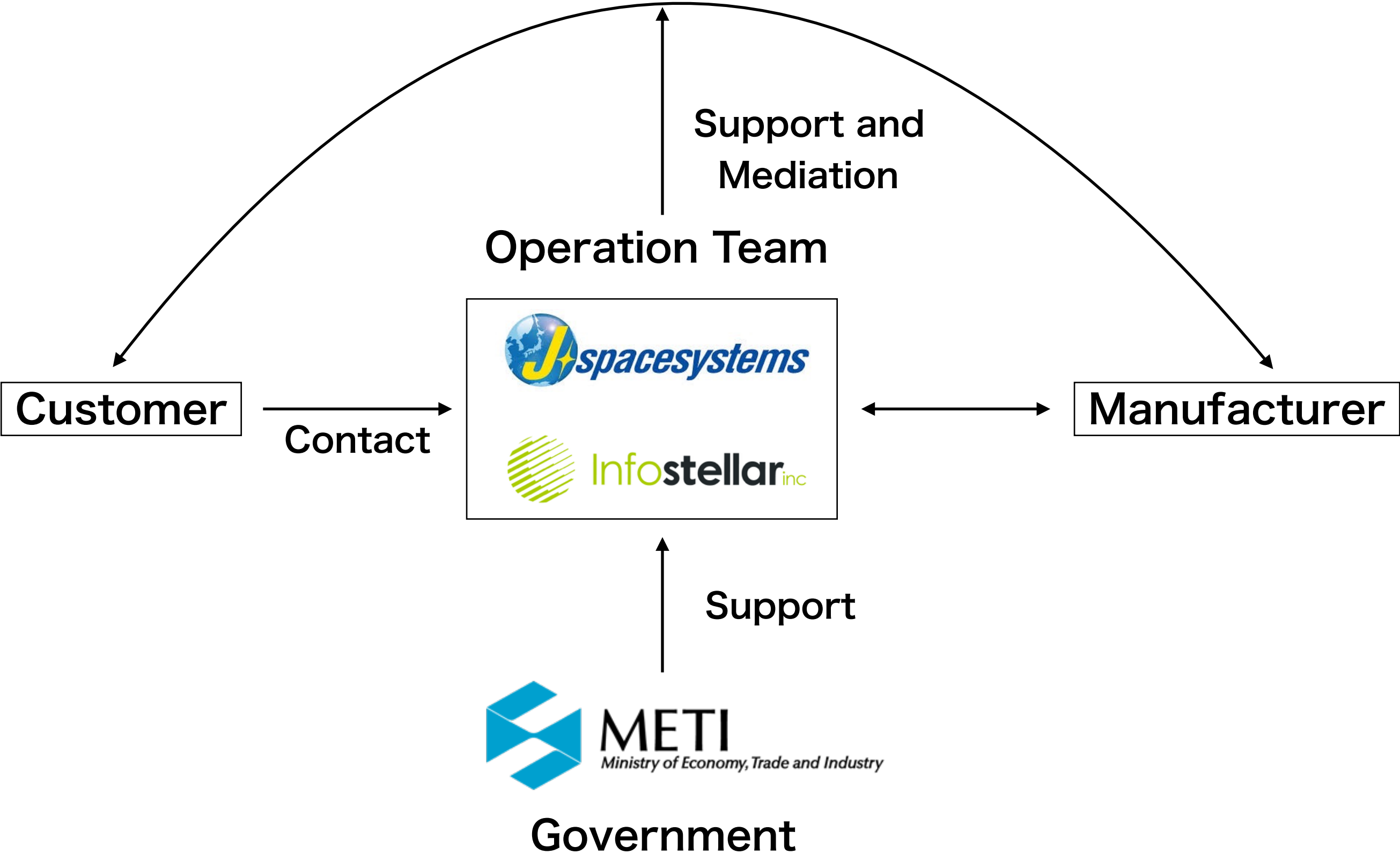
Solutions for manufactures

Issues	Solutions
Products are not well known.	The provider can promote own products on this website.
Price competitiveness	Outside of the scope of this project at present
Uncertainty of business model	Outside of the scope of this project at present
Resources for Sales and Customer Support	The website and operation team can support and intermediate communication with customer.
Knowledge about lows and regulations	A company can receive a advice from government offices easily.
Language	If the help is needed, translation and communication support is available.

Demo

Current status

Current status

2016.4.1   Project Start

2016.6~7   Development

2016.8.8   Releases at Small Satellite Conference

Partner

20 companies, organizations and universities participate

Products

47 products are available now

Products by category

Category	Number of products
Structure	0
Thermal Control	0
AOCS/Propulsion	1
Power	2
Onboard Computer	1
Actuators & Sensors	6
Communication	16
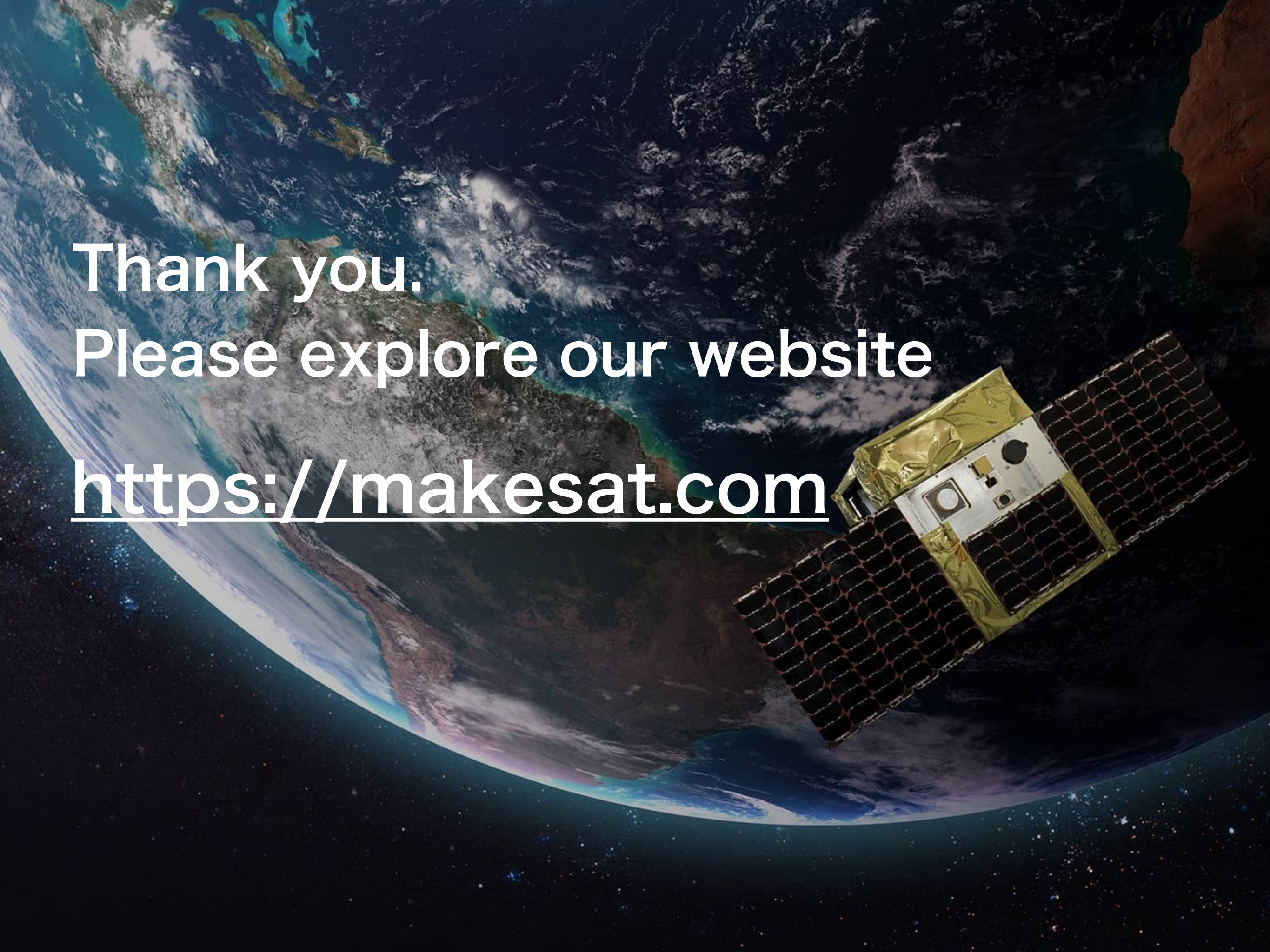
Category	Number of products
Satellite Kits	2
Ground Station	2
Testing	2
Material	5
Launch Services	1
Others	8

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Issues of Operation

- Deviation of the number of products by category.

  - Communication category accounts for one-third of entire products

  - No products of "structure" category are available

- There are still nonparticipating companies to explore.

- Needs to extend product lineup

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Conclusion and future plan

- To support overseas sales of domestic manifactures, development and operation of the website are conducted.

- According to interview of manufactures, they faces the lack of resource for overseas sales.

- Needs to extend partnerships and product lineups

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Thank you.
Please explore our website

https://makesat.com