December 16, 2025

To whom it may concern:

Company name: Carlit Co., Ltd.
(https://www.carlithd.co.jp/)
Representative: Hirofumi Kaneko, Representative Director and President
(Securities code: 4275; Prime Market of the Tokyo Stock Exchange)
Inquiries: Hajime Yamamoto, General Manager of
Public Relations & IR Group Corporate Planning Dept.
(TEL: +81-3-6893-7060)

Notice of "Space & Defense Solid Propellants Business Briefing"

We are pleased to announce that we have held a "Space & Defense Solid Propellants Business Briefing" with the aim of providing our stakeholders with more detailed information on the priority businesses set forth in our business portfolio under the medium-term management plan "Challenge 2027."

1. Background of the Business Briefing

The Group has articulated its future vision as: "To contribute to a sustainable society by combining the power of "chemistry" and "technology" to support people's happy lives" To realize this vision, we have formulated a three-year medium-term management plan covering the period from fiscal 2025 to fiscal 2027, and have been implementing a variety of initiatives under this plan.

Until now, we have provided information on our businesses and R&D activities primarily through earnings briefings. However, in order to share more detailed information with our stakeholders—such as the status of capital investments, R&D policies, and future directions—we decided to hold a dedicated business briefing.

2. Overview of the Briefing

- About Carlit and solid propellants
- Progress of the ammonium perchlorate capacity expansion plan
- Development status of space & defense solid propellants

For further details, please refer to the presentation materials from the next page onward.

3. Presenters

- Yoji Yamaguchi, Executive Officer, in charge of Research & Development
- Fumio Ogawa, Executive Officer, President (Head) of Research & Development
- Hajime Yamamoto, General Manager, Public Relations & IR Group

4. Video Distribution

A video recording of the briefing is scheduled to be made available at a later date on YouTube.

- END -

Space & Defense solid propellants Business Briefing

■Agenda

1. Carlit and Solid Propellants
2. Progress Report on the Ammonium Perchlorate Production Expansion Plan
3. Development Status of Solid Propellants for Space and Defense
4. Q&A

■Presenters

- Yoji Yamaguchi, Executive Officer, in charge of Research & Development
- Fumio Ogawa, Executive Officer, President (Head) of Research & Development
- Hajime Yamamoto, General Manager, Public Relations & IR Group

Carlit and Solid Propellants

Carlit's history

1） Situation in the early 1900s

The demand for large volumes of industrial explosives increased due to limestone quarrying for cement raw material.

At that time, dynamite(primarily oil-based) was mainly imported from overseas.

2） Societal challenge at the time

Could industrial explosives be manufactured domestically in Japan without relying on oil-based formulations?

3） Carlit's challenge

Carlit began the manufacture and sale of Japan's first industrial explosive using salt as the primary raw material — the Carlit explosive※ (1918).

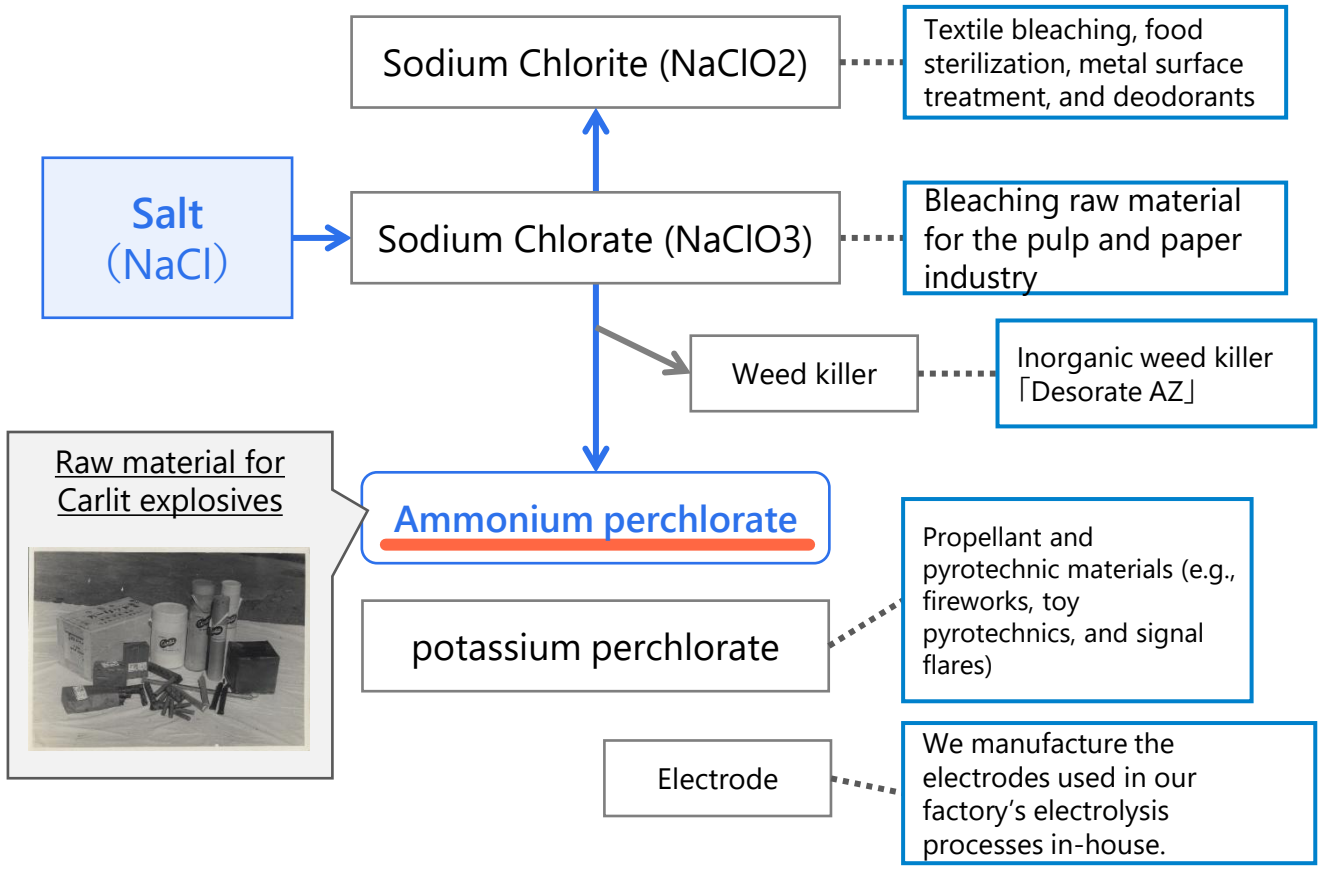
（※Carlit explosives are no longer sold.）

- **Achieved stable supply of low-cost explosives**
- **Contributed to Japan's industrial growth**

Soichiro Asano,
founder
（1848-1930）

From “Salt” to propellant feedstock

【Product lineup derived from salt as a starting material: electrolysis and electrolytic oxidation–related products】



All of the above fall under the Chemical field within the Chemicals segment in our financial statements.

Ammonium perchlorate (solid propellant), the topic of today’s presentation, embodies the core technologies Carlit has developed since its founding.

Electrolysis technology for production

Handling technology for explosives and hazardous materials

Progress report on the ammonium perchlorate production expansion plan

Ammonium perchlorate

Carlit Co., Ltd.

【Ammonium perchlorate （NH_4ClO_4）】

Properties

Appearance: White crystalline powder

Hazard Classification: Oxidizing solid (Class 1 hazardous material)

Properties: Burns vigorously when mixed with combustible materials; can ignite or detonate under strong heating

Manufacturing Site: Carlit Co., Ltd., Gunma Plant (Shibukawa City, Gunma Prefecture)

【Excerpted from Medium-term Management Plan “Challenge2027”】

Business Strengths	Key Markets and Positions
• The only domestic industrial manufacturing facility, manufacturing know-how cultivated since its founding Expertise handling know-how for explosives and hazardous materials • Use of electricity from hydroelectric power plant (Koto Hydroelectric Power Plant) • In-house development and manufacturing of electrodes exclusively for ammonium perchlorate production	• Space industry applications...Solid propellants for H3 rocket and Epsilon rocket (sold as ammonium perchlorate) Solid propellants for private rocket (KAIROS) • Defense applications...Solid propellants for defense-related products • The only industrial producer of ammonium perchlorate in Japan • Cannot be sold overseas. Domestic consumption only (End products may be exported)

Manufacturing process and strengths of ammonium perchlorate

【Manufacturing process】

1） Electrolysis process

Chlorate production by electrolysis/electrolytic oxidation of sodium chloride
Key strengths:
1. Ownership of an in-house hydroelectric power plant. (Koto Hydropower Plant)
2. In-house manufacture of electrodes for electrolysis.

2） Crystallization Reaction process

Convert sodium perchlorate to ammonium perchlorate and crystallize
Key strengths:
Precise control of particle shape and particle size (granularity)

3） Drying process

Dry the crystallized ammonium perchlorate
Key strength:
A drying process that does not crush the crystals (preserves crystal integrity)

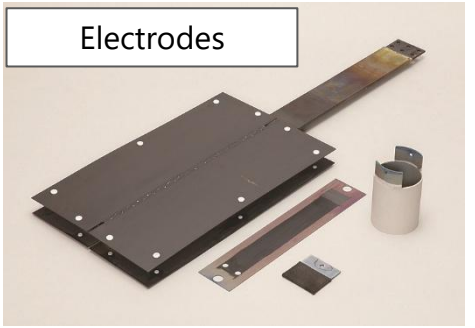
4） Sieving process etc.

Sieve the dried ammonium perchlorate and adjust particle-size and other quality attributes
Key strength:
precise control of particle shape and particle size (granulometry)

Ammonium perchlorate is completed.

Koto Hydropower Plant

Electrodes



Progress of the ammonium perchlorate production expansion plan

Processies	FY2024	FY2025	FY2026	FY2027	FY2028
Electrolysis	Phase 1（Complete）		Phase 3（WIP）		
Crystallization Reaction	Phase 1（Complete）				
Drying		Phase 2（WIP）			
Sieving etc.		Phase 2（WIP）			

Operations scheduled to start in April 2027.

As of 2023, maximum production capacity will be increased to 2–3 times the previous level.

Total investment

Phase 1：JPY 500 million

Phase 2：JPY 500 million

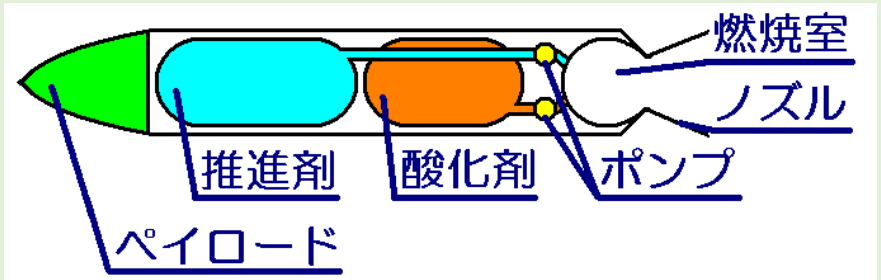
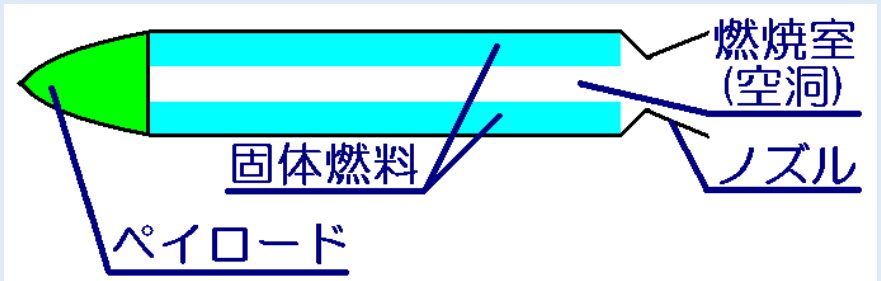
Phase 3：JPY 1,500 million

Under-construction photos

Development Status of Solid Propellants for Space and Defense

Types of solid propellants

Carlit Co., Ltd.

Category	Structure	Good point	Bad point
Liquid propellants		• High specific impulse (excellent fuel efficiency) • Thrust can be throttled/adjusted • Good structural efficiency for large-scale applications	• Expensive due to complex structures • Poor structural efficiency for small-scale systems • Difficult to store safely (issues with corrosion and toxicity) • Low operational readiness due to on-site fueling prior to launch
	Practical example：H3 Launch Vehicle		
Solid propellants		• Simple structure, high reliability, and low cost • Good structural efficiency for small-scale systems • **High operational readiness due to being storable and launch-ready (can be launched immediately when needed — suitable for guided missiles)**	• Thrust adjustment is difficult • Cannot be reignited (no restart capability) • Poor structural efficiency for large-scale systems
	Practical example：H3 Launch Vehicle Solid Rocket Booster、Epsilon Launch Vehicle Sounding rocket、Guided missile		

Source： NASA HP、JAXA・宇宙情報センター HP、「トコトンやさしい宇宙ロケットの本」日刊工業新聞社　他

Solid Propellants

【Solid propellants developed by Carlit】

Composite Solid Propellant ➡ Solid propellants primarily composed of ammonium perchlorate (AP) manufactured by Carlit

Note: Carlit is the sole manufacturer of AP in Japan.

What is a composite solid propellant?

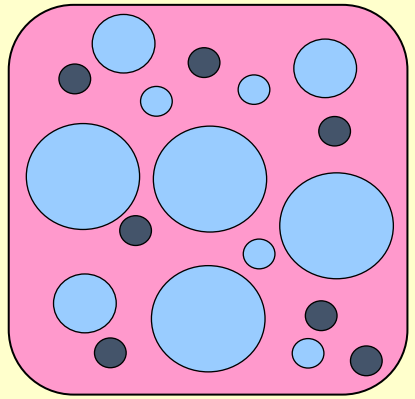
Binder: a resin that generates gas during combustion and acts as fuel (approximately 10%)

（BD）

Oxidizer: Ammonium perchlorate (AP), which supplies the oxygen required for combustion (approximately 70%). （AP）

Metal fuel: Aluminum particles that increase the combustion temperature (approximately 20).

（Al）

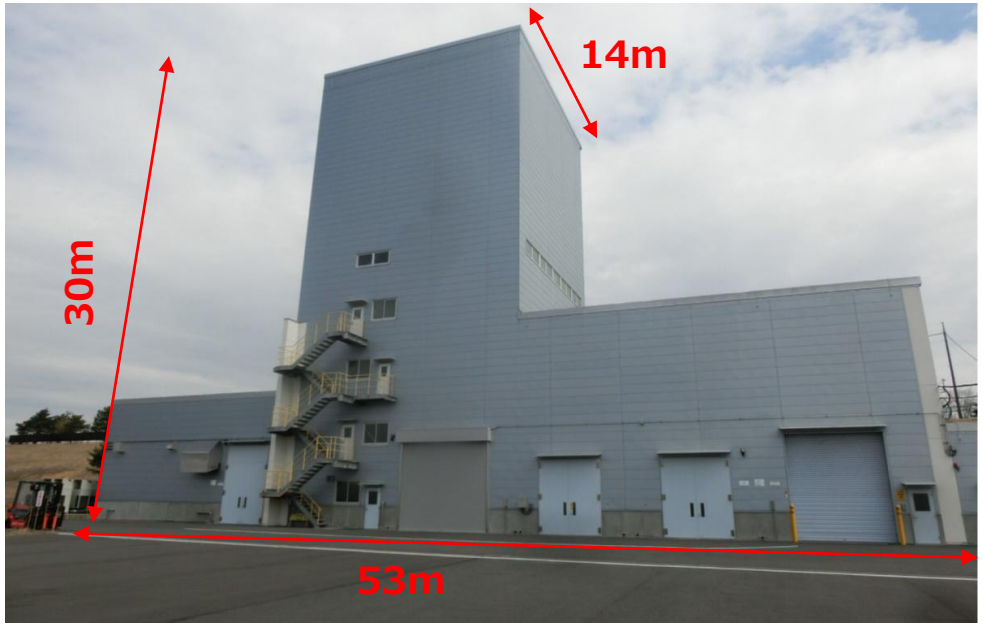


【Schematic diagram】

It falls under the category of explosives as defined by the Explosives Control Act, and therefore has the distinctive characteristic that it can only be manufactured by licensed explosives manufacturers.

Introduction to Solid Rocket Propellant Manufacturing Facilities

【Akagi Plant – Composite Solid Propellant Pilot Production Facility】

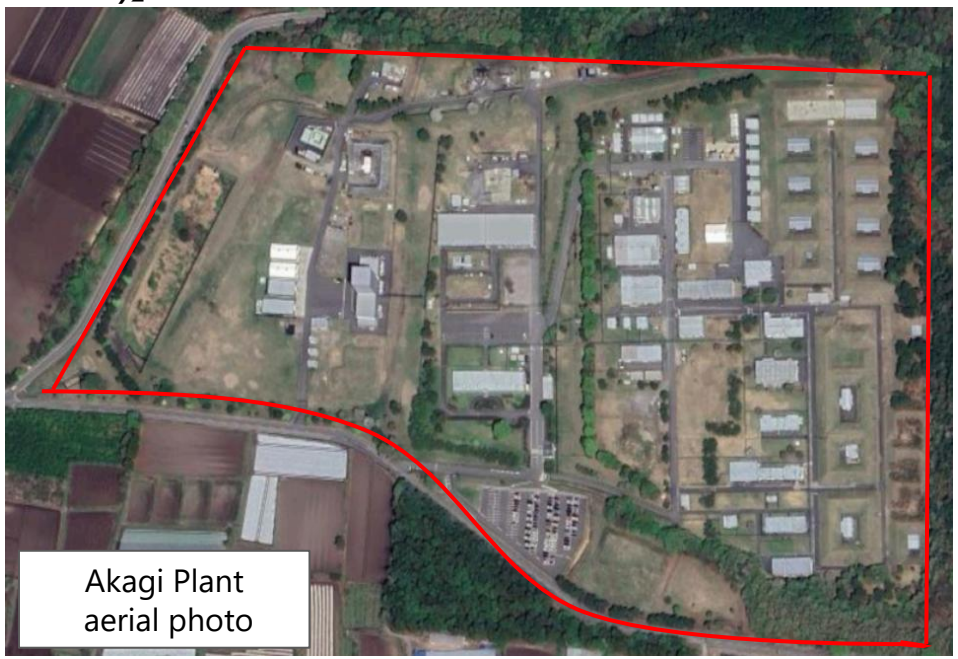


Maximum batch size: 15,000 kg

Installed equipment: Large mixer, large vacuum chamber (φ 3.5 m × L 10 m), 30 t overhead crane

Track record: Full-scale production of solid propellants for space and defense rockets, which are used for test flights and ground firing tests.

【Akagi Plant – Defense Solid Propellant Production Plant (under construction)】



- Capital investment has commenced with the aim of completing construction and starting production in FY2029.
- A new plant for manufacturing defense solid propellants is being constructed on the premises of the Akagi Plant.
- As of December 2025, site preparation work and equipment design have begun.
- The capital investment is scheduled to be recovered through initial procurement costs funded by the government.

Introduction to Solid Propellant Testing Facilities

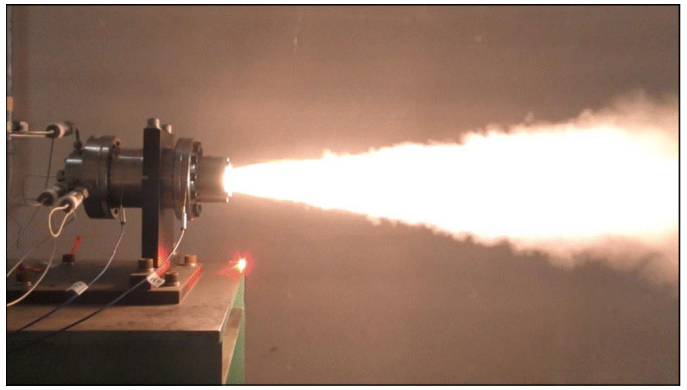
【Akagi Plant – Composite Solid Propellant Evaluation Facilities】

- Combustion test facility: Evaluates combustion characteristics of solid propellants, such as thrust and burning rate.
- Tensile testing machine: Evaluates the mechanical strength of propellants to verify that they can withstand combustion pressure and other loads.
- X-ray inspection system: Evaluates internal defects in solid propellants in a non-destructive manner.

⇒ These facilities are used for inspecting manufactured products and for customizing solid propellants to meet the requirements of each manufacturer.

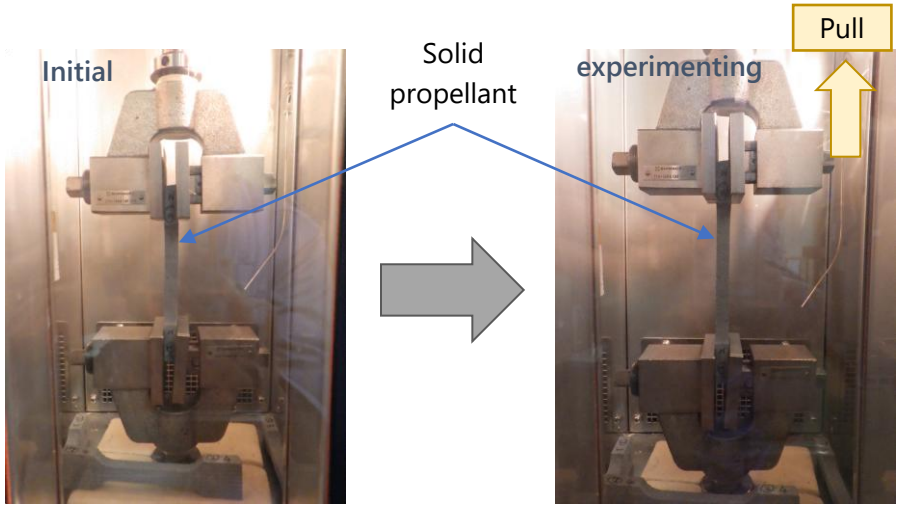
Combustion test facility

Propellant quantity testable at the laboratory: From 2-3kg up to 10 kg.

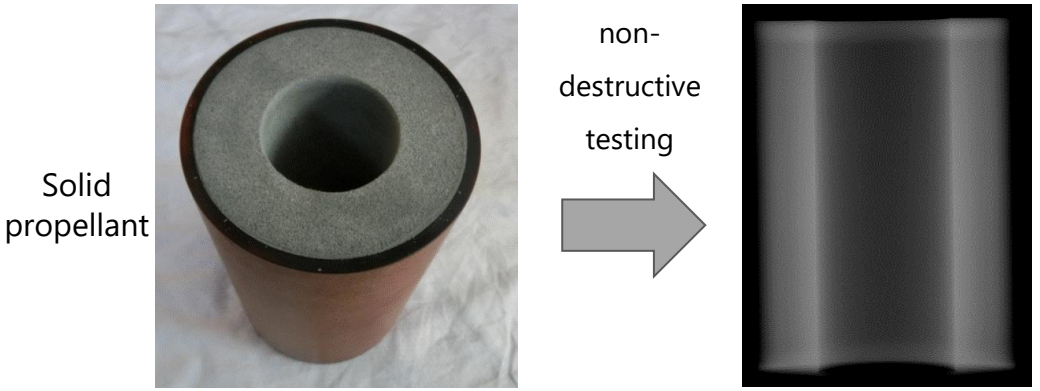


Solid propellant combustion test

Tensile testing machine



X-ray inspection system



Market for solid propellants for space applications

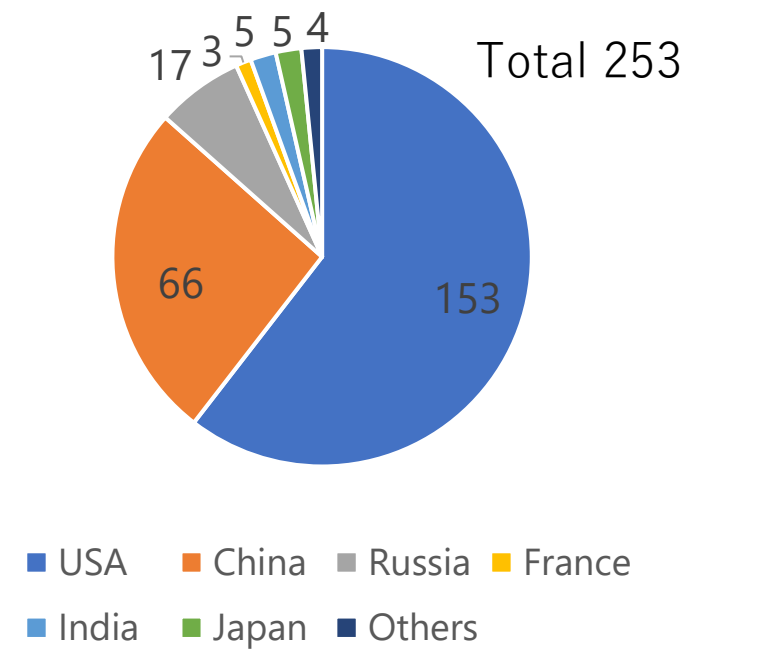
◆ Current status of space launch vehicles

While global demand for launch vehicles is rapidly increasing, government satellites in Japan are launched by JAXA's core rockets. However, the number of launches conducted in Japan remains at around five per year (see the figure on the right).

◆ Market for space launch vehicles

To overcome this situation, the Cabinet Office plans to enhance the transport capacity of both core rockets and private-sector rockets, and to recapture satellite launch demand that is currently flowing overseas by bringing it back to the domestic market.

【Number of rocket launches FY2025】



Source：「宇宙技術戦略（令和6年3月28日宇宙政策委員会）」

＊ **With the expected increase in the number of rocket launches in Japan, the domestic market for solid propellants for space applications is also projected to expand rapidly.**

Market for defense solid propellants

◆ Current status of defense spending

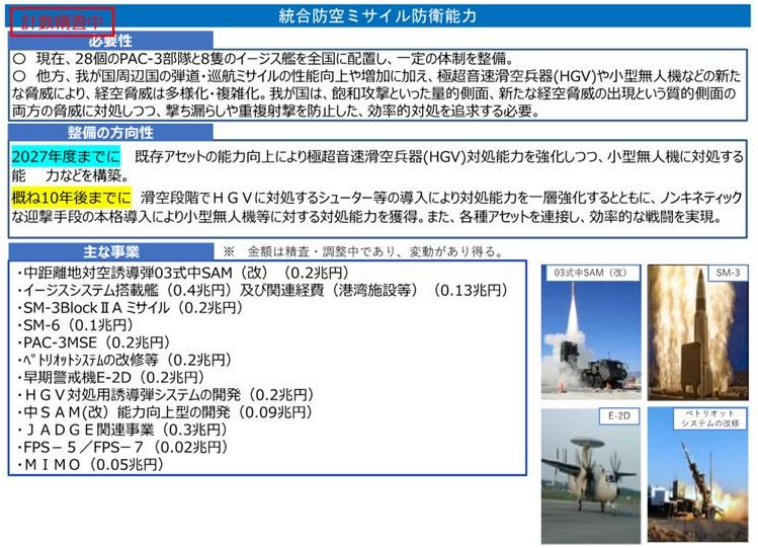
Japan has a plan to increase defense spending over the five years from fiscal 2023 to fiscal 2027. The total amount required to achieve the targeted level of defense capability development is estimated to be around 43 trillion yen. In the final year, fiscal 2027, the scale of annual defense expenditures, including related costs, is planned to be raised to 2.0% of GDP. (Japan's GDP in 2024: 609.2887 trillion yen)

◆ Market for defense rockets

Amid discussions on strengthening defense spending, the portion of the defense budget allocated to defense rockets (various guided missiles) is estimated, under the Ministry of Defense's Defense Buildup Program, to reach several trillion yen. Furthermore, in recent years, at the request of the United States, Japan has been considering raising its defense spending to 3.5%, and potentially up to 5%, of GDP. As a result, demand and the market for defense rockets (various guided missiles) are tending to expand significantly.

＊ With the planned increase in defense spending, the market for defense solid propellants is also expected to expand rapidly.

Integrated Air and Missile Defense (IAMD) Capability



Sustainability and Resilience in the Maintenance of Guided Missiles

Source：防衛省 防衛力整備計画 概要

Commercialization of Solid Propellants

【Commercialization of Composite Solid Propellants at the Akagi Plant】

In order to respond to the rapid increase in demand, we are shifting to a phase in which we aim for mass production and commercialization of the solid propellants that we have been developing to date. For the commercialization of solid propellants for space and defense applications, we plan to establish a mass-production framework and enter the market by expanding inspection facilities, storage facilities, and other infrastructure, in addition to the manufacturing facilities at the Akagi Plant.

[Solid Propellants for Space Applications]: Under consideration full-scale entry into the market

Production site: Akagi Plant
Applications: Commercial rockets, sounding rockets, and core rockets
Planned start of production: Under consideration
New facilities: Manufacturing equipment and buildings, as well as warehouse facilities
Planned investment amount: Under consideration

[Defense Solid Propellants]: Full-scale market entry decided; mass production plan underway

Production site: Akagi Plant
Applications: Defense-related products
Planned start of production: From 2028 onward
New facilities: Manufacturing equipment and buildings, as well as warehouse facilities
Planned investment amount: Approximately 8 billion yen (to be funded from initial procurement costs)

Future plans for solid propellants

【Future plans for solid propellants for space applications】

- Establishment of a mass-production framework and full-scale entry into the market
- (trial sales are currently underway and will be expanded after a successful launch)
- Expansion of the lineup of launch vehicle models using our propellants
- Development of cost-effective propellant manufacturing technologies utilizing robotics and AI
- Development of new solid propellants with unique characteristics

【Future plans for defense solid propellants】

- Establishment of a mass-production framework and full-scale entry into the market
- (to start in fiscal 2028 with sales of several hundred million yen; plans for subsequent years are yet to be determined)
- Expansion of the lineup of launch vehicle models using our propellants
- Entry into defense-related components and outsourced defense-related services
- Development of new solid propellants compatible with rockets currently under development

For Confidence and Infinite Challenges

Carlit

Giving Shape to Infinite Possibilities

(This document is prepared in reference to the Japanese disclosure. In the event of any discrepancies or inconsistencies between this English version and the original Japanese document, the Japanese version shall prevail.)