

# **Company Profile**

## •Musashi Optical Systems Co., Ltd.

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#### Top message

Since our establishment in 2003, we have been involved in a number of optical products, video equipment, precision equipment, etc., with "optical", "mechanical" and "electricity" as our core technologies. We are deeply grateful that we have accumulated a lot of know-how through these technological developments and have grown to this point because of the special patronage and support of many customers. Musashi Optical System aims to create high-quality, unprecedented value products for customer needs and affluent society in the field of optics, which has infinite possibilities. Based on the belief that "human resources are treasures,

" we respect the individuality of each employee and strive to create an environment in which each employee can demonstrate their creativity. Flexible and bold ideas are born from that environment, and we derive our "uniqueness" and "efficiency." We carry out integrated operations such as planning, design, manufacturing and sales services, and assign employees with more than 30 years of specialized skills to each section. Going forward, we will continue to make further efforts to improve customer satisfaction and earn long-term trust, and we will continue to build wise partnerships that will continue to satisfy our customers. In the future, based on the advanced optical technology cultivated in the fields of broadcasting and surveillance, we will actively work on new fields "deeper and wider". We will continue to do our utmost to meet the expectations of all of you, without forgetting the spirit of challenge at the time of our founding. We ask for your continued guidance and support.

"Always maintain a sense of balance"

President and CEO of Musashi Optical Systems Co., Ltd.

## Hitoshi Mochida



## **Company Profile**

Company Name	Musashi Optical System Co., Ltd.		
Established	August 20, 2003		
Capital	95.5 million yen		
Representative	Director and Chairman Satoshi Mochida		
	President and Representative Director Hitoshi Moch	ida	
Headquarters	5-18-2 Higashiomiya, Minuma-ku, Saitama-shi, Saitama		
Plant	[Production Center]		
	6891-1 Komuro, Ina-cho, Kitaadachi-gun, Saitama Prefecture		
	[2nd Production Center]		
	1038-2 Kawarabuki, Ageo City, Saitama Prefecture		
	* Sony Green Partner Certified Factory.		
Major trading companies	<ul> <li>Sharp Corporation</li> <li>JVCKENWOOD Co., Ltd.</li> </ul>	Certificate Green Partner	
	Sony Corporation		

- Panasonic Corporation
- Fujifilm Corporation



## **Corporate philosophy**

**Company Customers win-win relationship** We aim to provide high-quality products, improve customer satisfaction, and continuously develop and improve.

**Creating a company that is friendly to the earth** We are always aware of global environmental changes, We provide products that take into account the prevention of environmental pollution,

We will contribute to the creating a friendly environment.

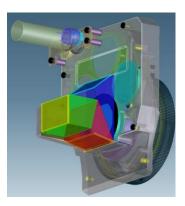
We aim to realize a prosperous society by providing better products and services with the three basic technologies of "optical", "mechanical" and "electricity". We realize high quality, short delivery time, and low cost through an integrated in-house system from design development to manufacturing and sales based on customer requirements.



# **MUSASHI-OPT Business**

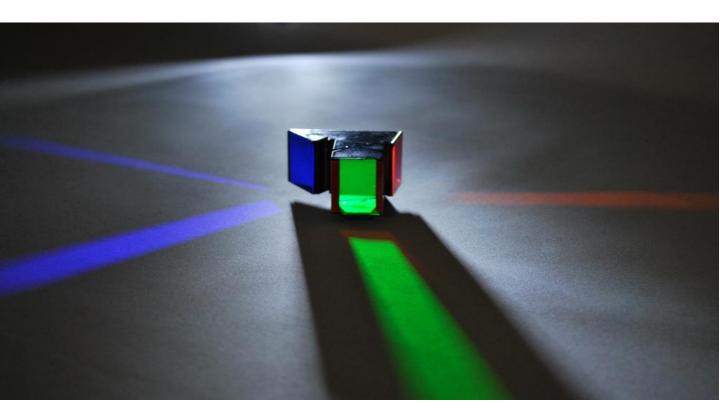
### **Prism Optical System Business**

•Design and manufacture of special optical equipment. For sale 4K-8K camera optical system, 3D optical system, surveillance optical system, FA optical unit, etc.



The color separation prism is used in TV video cameras, and utilizes the property that the spectral characteristics of the reflection and transmission of white light are complementary to each other in a dichroic mirror (multilayer interference film). It is an optical system that leads to. Our color separation prism optical system provides high-definition optical technology compatible with 4K / 8K.

Various wavelength decomposition prisms We propose shapes and spectral characteristics by optimally designing the glass material, length, width, angle, etc. according to the customer's lens and sensor. Achievements of 2-plate visible / infrared branch prism, 3-plate 1/3 "1.25" various prisms, 4-plate dual green prism, etc. In addition to manufacturing jig lenses for the sensor fixing process, it is also possible to fix sensors on single to four plates.



## **MUSASHI-OPT Business**

#### Lens business

- •Design, manufacture and sale of special optical equipment 4K 3CMOS C-mount lens for 4K cinema, 8K adapter lens for rigid mirror, optical mount conversion adapter, etc.
- •Fujifilm (Fujinon) Video equipment distributor TV camera lens, CCTV lens

Suitable for various purposes and applications, from epoch-making camera lenses that embody the needs of the times such as high performance, compactness, and high versatility, to high-precision lenses for FA that support 3CCD and megapixels.

We are developing many products.





### **MUSASHI-OPT Business**

#### Surveillance system business

Design, manufacture and sale of special optical equipment Surveillance camera system, video recording system, remote shooting equipment, etc. Fujifilm (Fujinon) video equipment distributor Information camera system

We are proposing the systematization of surveillance and HD video information by making full use of the high skill work and mobility cultivated for the television broadcasting industry. We have an in-house integrated support system from consulting to proposals, design and construction, and maintenance, and we thoroughly support activities according to the customer's budget, delivery date, and environment.

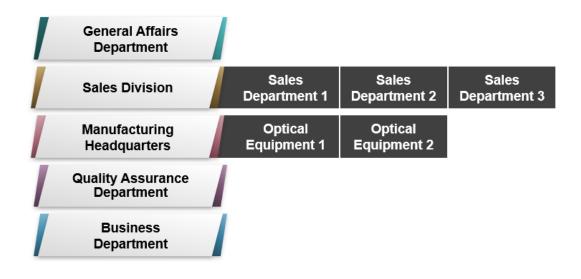


•For monitoring major cities (in front of stations / rooftops of buildings)

- •For monitoring systems related to airports and ports
- •For explosion-proof monitoring of nuclear power plants, etc.



## **Organization chart**



### **Headquarters · Production Center**



#### <u>Headquarters</u>

**General Affairs Department** 

TEL:048-812-7640 FAX:048-812-7690

Sales Department

Train

JR Utsunomiya Line Higashi-Omiya Station About 5 minutes on foot from the east exit





**Optical Equipment 1 Department, Optical Equipment 2 Department (Lens), Quality Assurance Department, Business Department** 

TEL:048-872-6550 FAX:048-872-6551

- Train: Saitama New Urban Transit New Shuttle About a walk from Ina Line Shiku Station 4 minutes
- Bus: •From JR Utsunomiya Line Hasuda Station Bus bound for Ageo Station East Exit →Get off at "Nakayama Residence"
  - From JR Takasaki Ageo Station Bus bound for Hasuda Station West Exit →Get off at "Nakayama Residence"



**2nd Production Center Optical Equipment Part 2 (System)** 

TEL:048-876-8603 FAX:048-876-8604

Bus: From Higashi-Omiya Station on the JR Utsunomiya Line Bus bound for Ageo Station East Exit → Get off at Hikawa Shrine



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## **Development concept**

#### **Development is the origin of Musashi Optical System of technology**

[ Advancement of optical device technology] [ Application of existing technology] [ Development of new model by combined technology]

We are working on development centered on these three, and we are creating products that improve efficiency, reliability, and reduce the burden on the environment as much as possible. We, Musashi Optical Systems Co., Ltd., are a group of engineers with more than 30 years of know-how in planning, design and manufacturing. Based on our base technologies of "optical", "mechanical" and "electricity", we directly reflect the needs of our customers, but for planning, designing and manufacturing systems that have needs but have not been commercialized. , A technical designer with more than 30 years of know-how will conduct detailed research on all customer needs and reflect them speedily. As we continue to do so, we have earned the trust of our customers. In order to respond quickly to the diversifying optical lens industry, we will continue to take on challenges to contribute to society through business strengthening promotion, new technology development, infrastructure development, and employee technology improvement.

## **Product-View**



High magnification Full-Frame zoom lens



C-mount lens for 4K compatible 3CMOS camera



S35mm Zoom Lens



OptMag Plus





OptMag for Full-Frame



OptMore

Super water carry filter



rigid mirror adapter

#### Design

#### Parts procurement

#### Assembly

[Design personnel] Optical design Mechanism design Electrical / software design [Cooperating company] Procurement of optical and mechanical electrical parts through our own network [Assembly personnel] Optical equipment assembly expert is in charge [Quality assurance system] Obtained ISO9001 ISO14001 certification in 2015

Quality

control



Respond to customer needs through meetings accompanied by engineers





Product

completion

delivery

Clean room on one floor of Ina Production Center Prism assembly work is carried out in a class 100 environment inside the clean bench



High-performance turntable



Underwater remote control pan head with built-in 4K camera



macro photography device



Medium-sized pan head for indoor use



Auto Focus Module



LCD prompter



Wireless Tally System



one-man operation system

## Design and development examples of custom optical products

#### Reference lens for sensor bonding

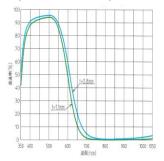
We design, manufacture and provide standard lenses for the image sensor attachment process of camera manufacturers. It is a lens that supports 4K and suppresses various aberrations (chromatic aberration, distortion, etc.) to the limit. Can be applied for sensor evaluation



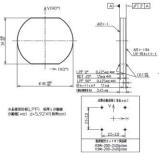
#### Optical filter

In addition to the design and development of optical filters equipped with optical systems, we also sell them individually.

Low-pass filter specification example



IR cut filter specification example



## General-purpose production equipment

Clean booth for optical system assembly



Clean booth for attaching sensors



Three-dimensional measuring device



## About MUSASHI-OPT

### **Regional future leader**

The regional future leader is a system certified by the Ministry of Economy, Trade and Industry. We certify companies that actively develop businesses that strongly drive regional economic growth by creating high added value by taking advantage of the characteristics of the region and

exerting an economic ripple effect on local businesses.



地域未来牽引企業

## Sai no Kuni Factory

In order to promote the creation of factories that are open to the community and loved by the community, the governor of Saitama Prefecture designates factories in the prefecture that are superior in terms of technology and the environment as cooperators in the creation of a rich and colorful.



#### Various wavelength decomposition prisms

We propose shape and spectral characteristics by optimal design such as glass material, length, width, angle, etc. according to the customer's lens and sensor. Visible / infrared branch prism and sensor bonding are also possible.





Filter turret installation example

1/3 ~ 1.25 Various prisms

#### Attach sensor

We are joining sensors from a single plate to 4 plates. We have a track record of submicron accuracy.



4K / 8K optical system 8K camera patented (flange back adjustment mechanism)



# 3Ch-Spectroscopic measuring device



#### MTF measuring device



Program large constant temperature bath



### Saitama City Leading Edge Company

Saitama City Leading Edge Company is an advanced manufacturing company certified by Saitama City. In the city manufacturing industry, which is said to have more than 4,000 companies under the system that Saitama City certifies R & D-type manufacturing

companies in the city with highly original and innovative technology, 34 companies are less than 1% certified.



### Saitama City CSR Challenge Company

This is a system in which Saitama City certifies small and medium-sized enterprises in the city that are willing to promote corporate management that balances social soundness while maintaining and expanding their own business activities as Saitama City CSR Challenge Enterprises.



Optical innovator leading the 4K · 8K