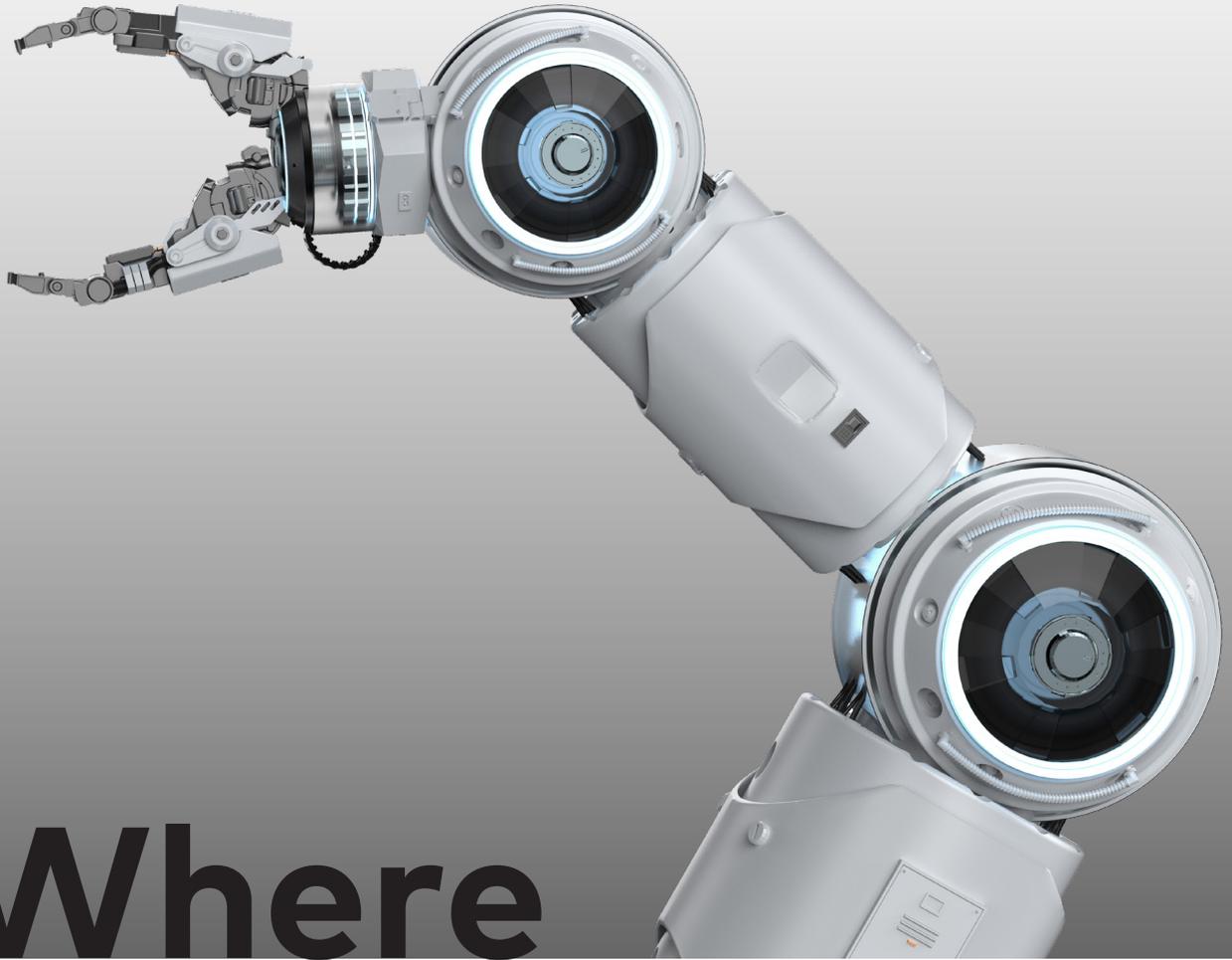


Titanium **Line**



# Where Motion Matters

Next generation of multi-axis motion control solutions bringing your machine top advanced performance multi-axis management.

Redefining Limits of Motion Control



See why we are different

# Why Elmo

## Innovation delivered

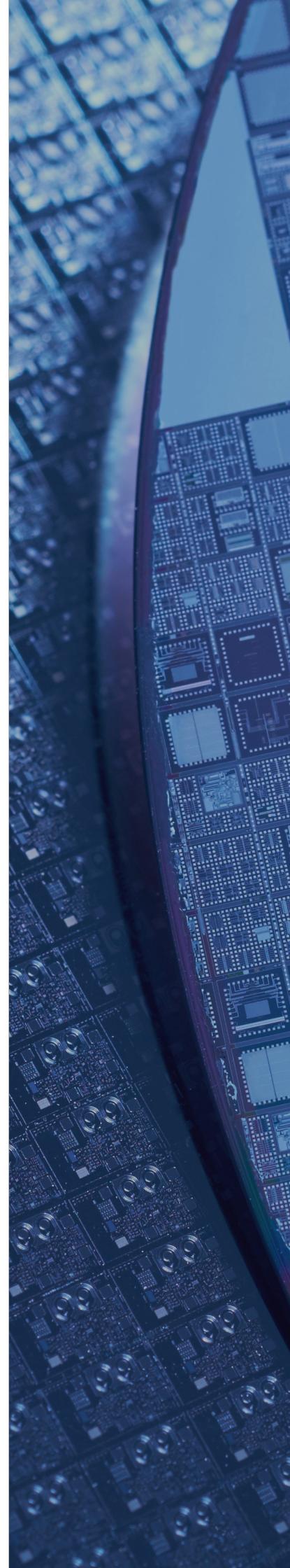
Our drives are in the field every day enabling the most technically demanding and mission critical applications, from semiconductors to space.

## By engineers for engineers

Elmo exists because motion control is our passion. The only thing we're more passionate about is helping you get our drives into production.

## The right drive for every application

With the largest catalog of compact, high-performance servo drives and motion controllers, Elmo can drive any motor, with any feedback, on any bus.



# Any Motion. Any Application

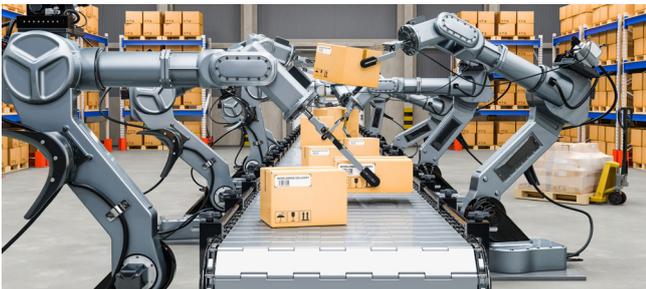
Elmo motion control is designed for all types of industries for a wide range of applications including:



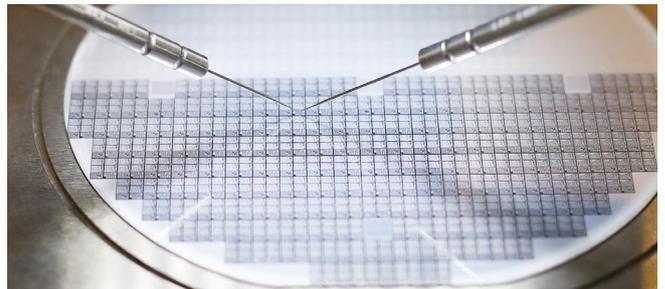
Life Sciences



AGV & Smart Warehouse



Industrial Automation



Semiconductor



Printing & Packaging



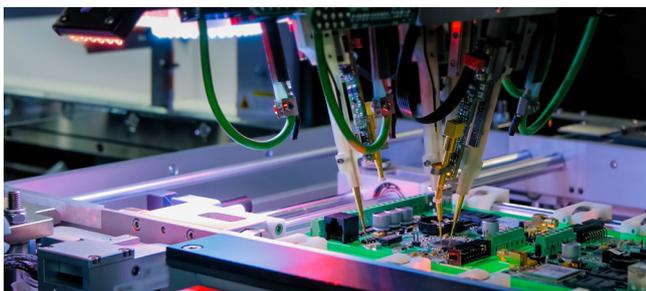
Extreme Environments



Robotics



Laser Cutting



Electronics

# Titanium Line | Servo Drives

The Titanium Line provides multi-axis performance with advanced high-power density that are highly intelligent and very small servo drives that are operational within minutes. These servo drives are advanced delivering top performance, Functional Safety, advanced networking, and local intelligence.



## Titanium Line | Highlights

> 2 axes in 1 servo drive,  
25% larger than a single axis

> Introducing GaN (Gallium Nitride)  
technology

> Saving design space in the machine

> Faster switching time, less energy waste

> Full functional safety with FSoE for  
2 axes or STO only

> Separate configuration and motion for  
each axis in one device

> Optimized high performance  
multi core processor

> Scalable architecture for safe and non-  
safe configurations

## Titanium Castanet Highlights

- > Exceptionally Small Dual-Axis & Functional Safety\* Servo Drives
- > GaN – Gallium Nitride Power Switching Technology
- > Ultra Fast Switching Time (~20 nSec)
- > Switching Frequency of 100kHz+
- > FSoE / STO
- > USB option
- > Up to 1.2 kW per axis, 2.4 kW total
- > Up to 100 VDC
- > Up to 15 A

## Titanium Castanet

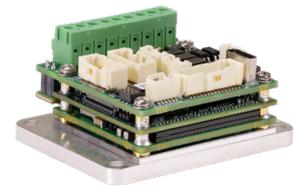
- > 40 x 34 x 15.4 mm
- > Up to 3 UART
- > Up to 4 analog inputs
- > EtherCAT/CANopen



Titanium Castanet

## Titanium Solo Castanet

- > 41 x 34 x 22 mm
- > Up to 2 UART
- > 2 analog inputs
- > EtherCAT/CANopen



Titanium Solo Castanet

## Titanium Solo Castanet Safe IO

- > 41 x 63 x 22 mm
- > EtherCAT
- > Safe IO
- > FSoE / STO



Titanium Solo Castanet Safe IO

## Titanium Harmonica Highlights

High density, dual-axis, Functional Safety\*, and metal enclosure

- > 142 x 97 x 26 mm
- > Up to 2 x 25A/100V & Up to 2 x 15A/200V
- > Up to 2.5kW per axis, 5kW total
- > EtherCAT/CANopen/USB/UART
- > FSoE & STO
- > Reg IO/Safe IO



Titanium Harmonica

\* In certification process

# Titanium Line | Controller

## Titanium Maestro

New Era in multi-axis motion controllers

- > C++ and Python programming
- > Enhanced CPU
  - > Quad Core CPU 1.9 GHz
  - > Up to 16GB RAM, 64GB
- > Dedicated Cores for Real-Time tasks
- > Powerful control of 16 axes at an outstanding cycle time of 100uSec
- > Capabilities of up to 256 axes
- > Backward capabilities to Platinum Maestro



Titanium Maestro

# Titanium Line | Software Tools

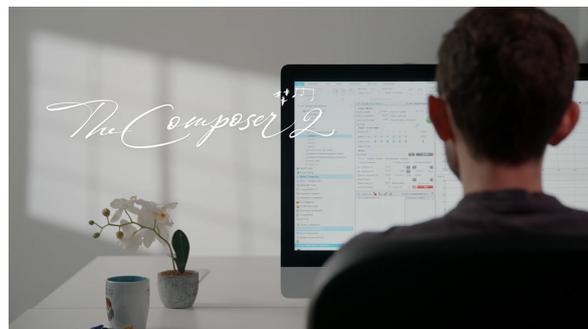
## EASII (Elmo Application Studio)

- > A software tool that walks you through implementation.
- > Configures programs, maintains, and analyzes every feature and capability in Elmo's servo drives and motion controllers.
- > Designers can easily implement specific motion control needs.

**EASII**  
Elmo Application Studio

## COMPOSER2®

- > Unique software tool allowing engineers to execute their own designed software.
- > A powerful tool enabling machine designers to easily develop, test and implement their own control algorithms.
- > The composed code is cross-compiled and downloaded directly on the Titanium drives and motion controller for testing and executing in real-time environments.



# Titanium Technology Highlights



Perfect machine synchronization



Faster development



Award winning settling times

4000:1  
Wide Dynamic Range

Optimally move any load

35X30<sub>MM</sub>  
Miniture Modules

Mount anywhere



Run your own algorithms from MATLAB

Fast and Soft Switching Technology



Smaller, more powerfull machines

256  
Axes of Motion

Multi-axis capabilities



Any Motor



Any Feedback

## Redefining Limits of Motion Control

Design



Perform



Function



# A Culture of Reliability

+35

Years pioneering motion control innovation

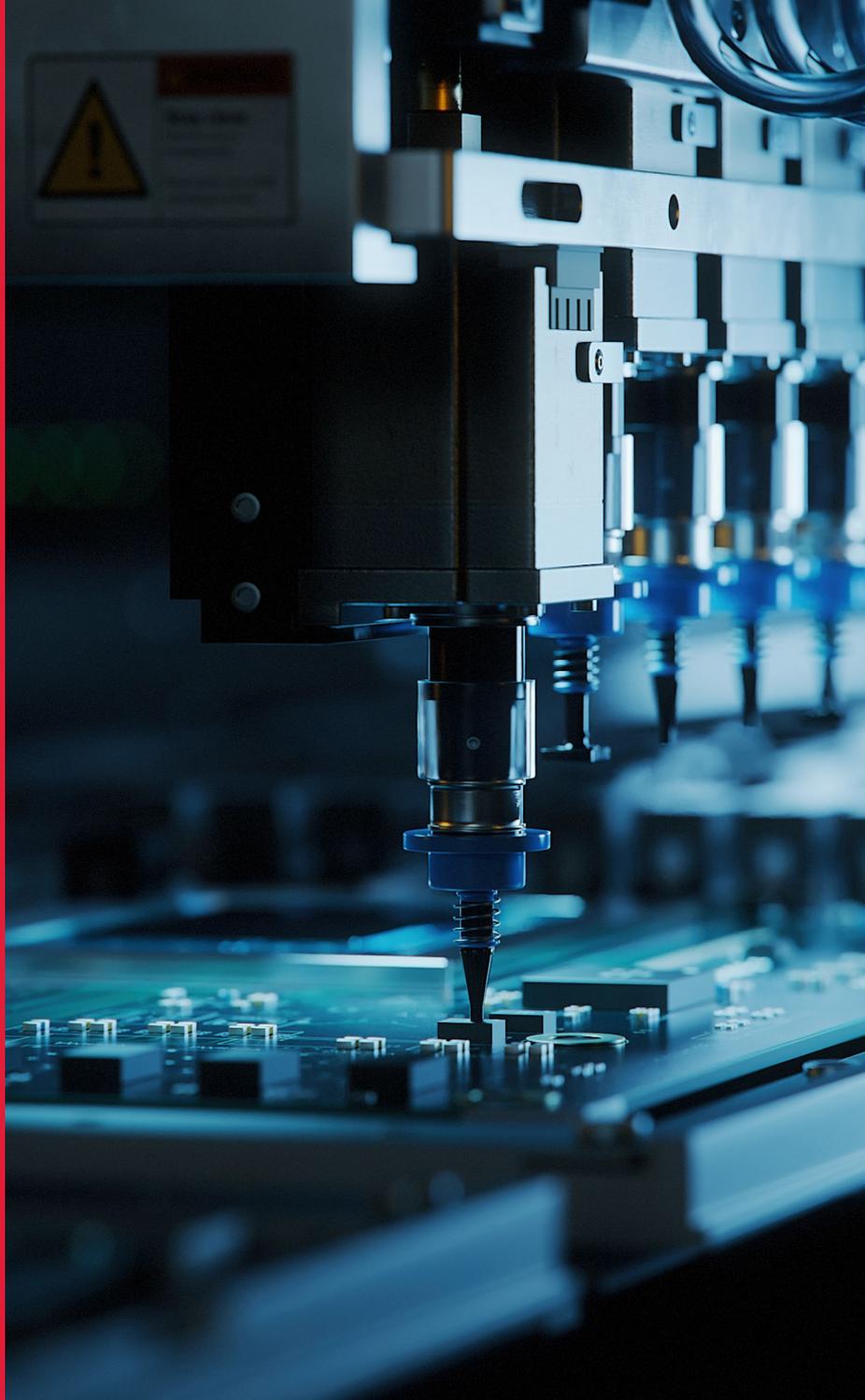
>2500

OEMs trust Elmo for their motion needs

>4.5M

Servo drives running 24/7 worldwide

Learn more at [elmomc.com](http://elmomc.com)



Any Motor



Any Feedback

## About Elmo

Elmo has been a motion control technology leader for over 35 years, with millions of servo drives working 24/7 worldwide. Elmo offers complete motion control solutions from design to delivery of cutting-edge servo drives, network-based multi-axis motion controllers, and integrated servo motors. By advancing motion control with state-of-the-art technology, Elmo makes smart machines even smarter. As of 2022, Elmo is a Bosch Rexroth company.

For more information, visit [www.elmomc.com](http://www.elmomc.com)

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**Elmo**  
Motion Control