



UMBRA GROUP

AEROSPACE DEFENSE SPACE

Acting for the next generation

Our Mission

***TO BE THE CUSTOMER'S
INTELLIGENT SUPPLIER
OF ACTUATORS, BALL
SCREWS, BEARINGS AND
COMPONENTS IN HIGH-TECH
MARKETS.***

Our Vision

***AGILE, PASSIONATE
PARTNER REVOLUTIONIZING
MOTION SOLUTION.***

Our Values

Innovation

We develop new ideas that foster innovation and improvement of processes, skills and interpersonal relationships.

Social Responsibility

We consider our company as a common good, belonging to all our community.



Focus on the customer

We want to build a lasting partnership based on mutual trust. We listen to our customer's needs to make a difference.

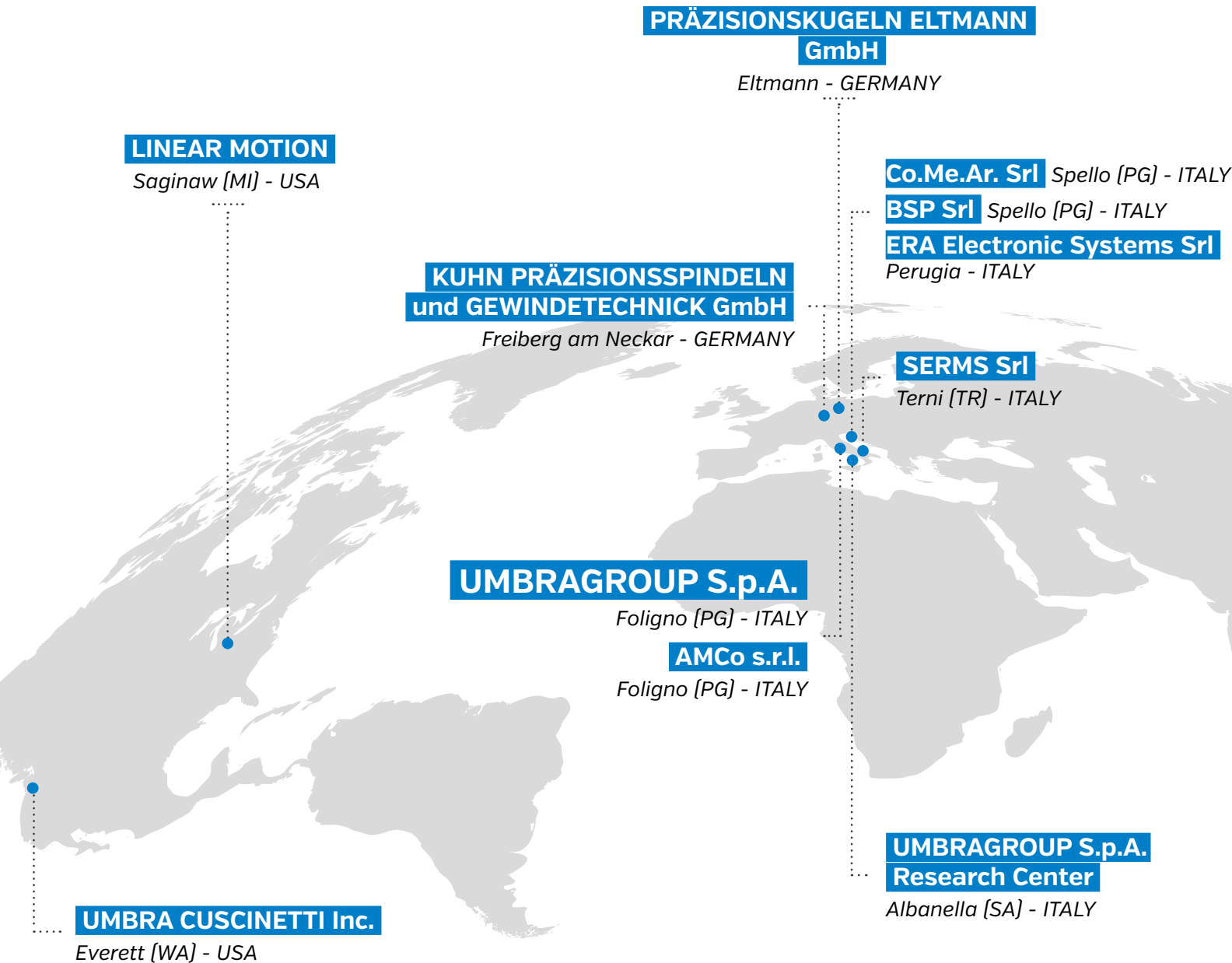
Respect

We create loyal relationships based on trust, engaging professional discussion and the exchange of ideas.

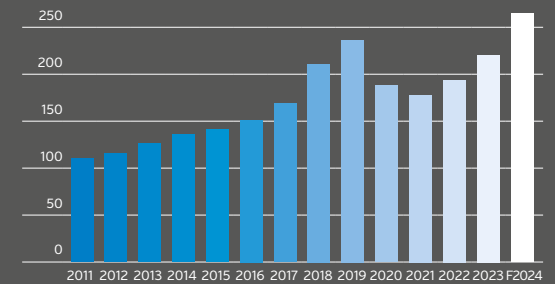
Teamwork

We nurture passion and determination to meet and overcome challenges, in full compliance with our Vision. Our strength is our team!

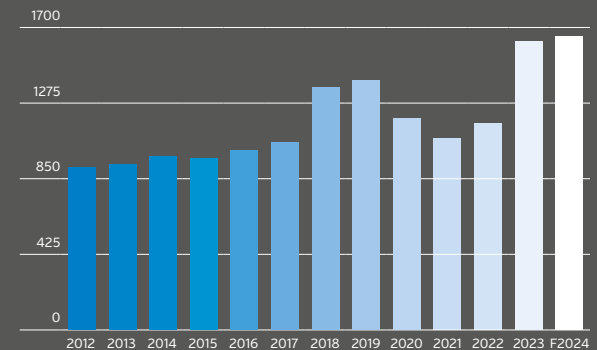
GLOBAL FOOTPRINT AND SIZE



REVENUES [M€]



WORKFORCE



COMMERCIAL

We provide design, manufacturing and after-market services for high-tech precision components and offer electromechanical actuation solutions for legacy and disruptive electric platforms with exceptionally reliable products for the most challenging flight and safety critical mechatronic applications.



DEFENSE

We have acquired extensive component and sub-assembly experience in fin control actuation and combine this with heritage linear and rotary actuation experience making UMBRAGROUP a leading global supplier of legacy and next-generation fixed wing, UAV and rotocraft platforms in the defense market.



SPACE

Our SERMS subsidiary offers unique services, both testing and simulating space environments designing the rigorous manufacturing of precision mechanisms and sub-systems compliant with ESA and NASA.



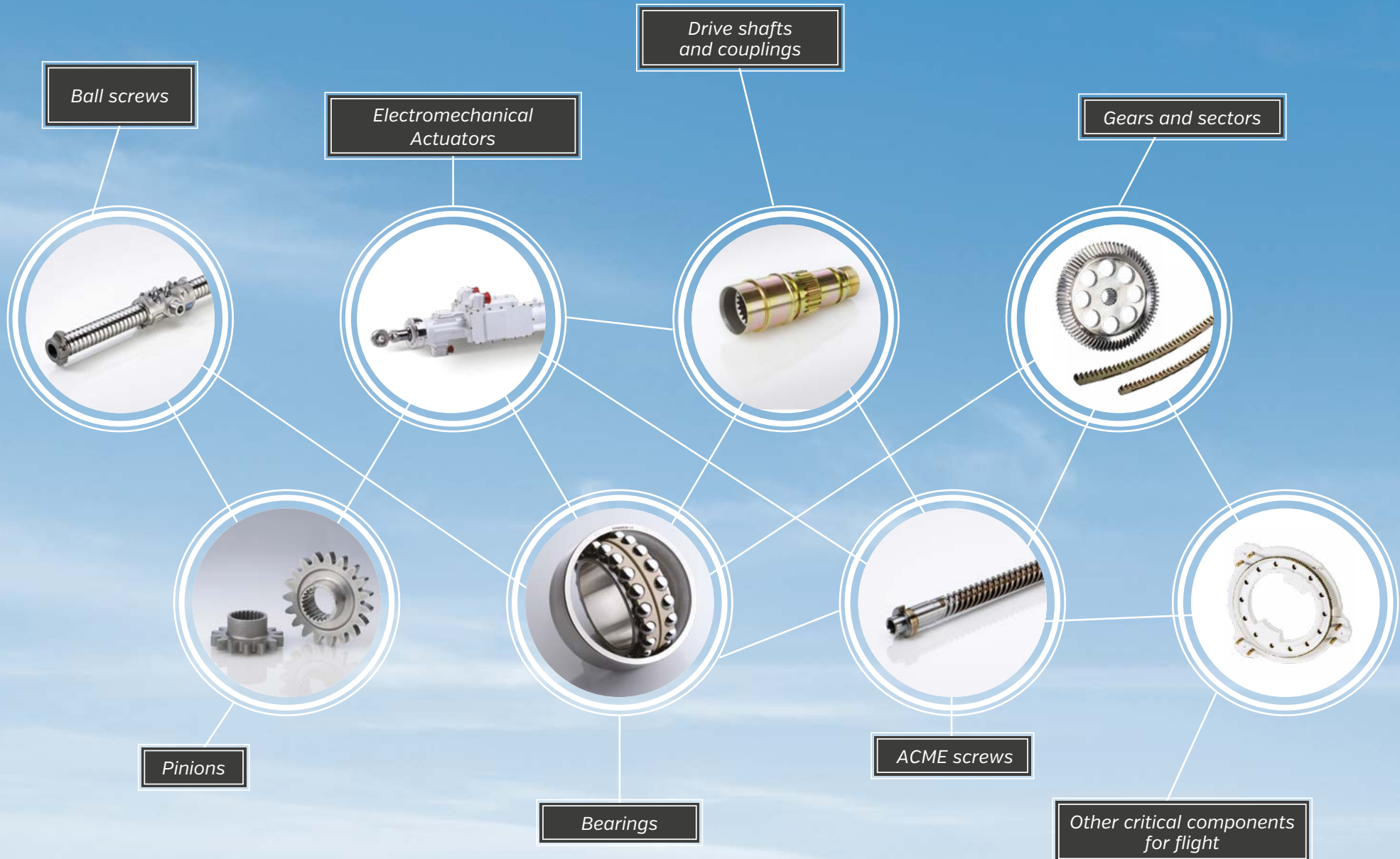
AFTERMARKET

Support throughout the entire life cycle of our products, managed by a dedicated Aftermarket Division operating specific facilities and offering customers all-inclusive, worldwide services.



PRODUCT & PLATFORM

High durability components and systems



PRODUCT & PLATFORM

High durability components and systems



COMMERCIAL



Fixed Wings

WIDE-BODY		NARROW-BODY			REGIONAL JETS & TURBOPROPS				BUSINESS AVIATION				
Airbus	Boeing	Airbus	Boeing	Comac	Bombardier	Embraer	British Aerospace	Fokker	Bombardier	Gulfstream	Pilatus	Hawker	Dassault
A300 A300-600 A310 A330 Neo A340 A350 A380	747-ER 747-8 767 777 777-ER 777-X	A220 A320 A320 Neo	707 727 737 Classic 737 NG 737 MAX 757	ARJ21 C919	CRJ1000 CRJ200 CRJ700 Dash 8-400	ERJ145 ERJ170 ERJ190	Avro RJ BAe	F28 F70	CL-300 Global 5000 Global 5500 Global 6000 Global 6500 Global 7500 Learjet 45	G100 G150 G280 G-V G550 G-VI G650 G-VII G500 G600	PC-12	HS-125	Falcon 5X Falcon 6X Falcon 7X Falcon 10X

Rotary Wings			Engines				Advanced Air Mobility		
Airbus	Boeing	Leonardo					Supernal		
H160 RACER	V-22	AW609 EH101 NH90	CFM56 CF34 CF6 V2500 RB-199 RB-211				S-A2	and more (undisclosed)	



DEFENSE

Fighters, Transports, Fin Guidance

AMX	B-52	E-3	P102	T-7 Red Hawk	EFA	Predator	Submarine	M-346	F-35	P-3	RQ-170	Sentinel	E2C/D	J-85	Tornado	P.1HH	BD-250	KF-X	LSF-11	SSC-506	and more (undisclosed)
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SPACE

Vehicles, Launchers, Satellites

Space Shuttle	Dream Chaser	VEGA rocket	GEM-63 rocket	Satellites (undisclosed)
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Commercial APPLICATIONS

A wide range of products from auxiliary to flight and safety critical applications.

- AILERON
- AUXILIARY
- BRAKE
- CABIN LIFT
- DOOR
- ENGINE CONTROL
- EXHAUST NOZZLE
- FLAP
- FUEL CONTROL
- HIGH LIFT SYSTEM
- LANDING GEAR
- RUDDER
- SEATS
- SLAT
- SPOILER
- STABILIZER
- STEERING
- THRUST REVERSE



ATA 27



ATA 32



ATA 78



Others

Commercial APPLICATIONS

- ACTIVE ANTIVIBRATION SYSTEM
- ACCESSORIES
- BLADE FOLDING
- DOOR
- ELECTRIC TAIL ROTOR
- FLIGHT CONTROL & AFCS
- FLIR/EOS
- LANDING GEAR
- REFUELING BOOM
- ROTOR MAST



ATA 27



ATA 32



Others

Defense

APPLICATIONS

A wide range of mission critical products with localized capabilities to support national markets.

- ELECTRO OPTICAL TARGETING & SYSTEM
- FILLET FLAPS
- FIN CONTROL
- FLIR MIRROR DRIVE
- LAUNCHER
- MIRROR DRIVE
- PEDALS
- PYLON CONVERSION
- RPB
- THRUST VECTORING CONTROL
- TRANSFER MAST
- WING DEPLOYMENT
- WING SWEEP



Space

APPLICATIONS

Reliable products performing
in the most rigorous environments.

- ANTENNA'S ORIENTATION
- DOORS
- ELECTRIC PROPULSION
- EXTENSION AND RETRACTION SYSTEM
- FIN CONTROL
- LANDING GEAR
- NOZZLE ORIENTATION
- PAYLOAD MOVEMENT
- ROBOTICS
- SATELLITE GYROSCOPES
- TRANSMISSIONS
- UTILITIES



PRODUCT & SOLUTIONS

High durability components and systems



LINEAR & ROTARY ACTUATORS

- Fast-paced prototyping and innovative component-driven design to maximize power density and minimize envelope.
- Solid equipment engineering skills for solving customers' challenges and compressing development cycles.



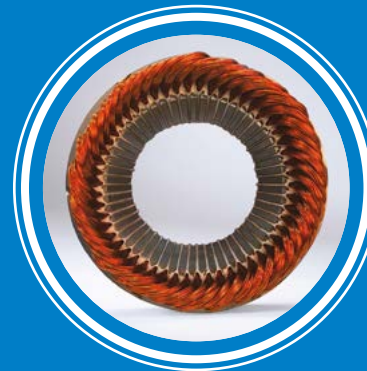
COMPONENTS

- Dedicated manufacturing processes and heat treatments developed for high quality and high volume production of pinions and sector gears, splined components.
- Mastering industrialization and manufacturing of ACME screws, swallow shafts and tie rod.



BEARINGS

- Designing and manufacturing customized ball bearings, roller bearings, skewed rollers for special applications and extreme conditions.



ELECTRIC ROTATING MACHINES AND MOTORS

- Unique ability in designing and producing high torque and high power density motors tailored to demanding actuation requirements, using high performance materials and the latest state-of-the-art design and construction.
- Design and manufacturing of generators, fail safe electric motor for flight-critical actuators and high-power propulsion elements such as electrical VTOL tail rotor.



BALL SCREWS

- The Market Leader, present on FLIGHT-Critical actuation systems of all major airframers and system suppliers.
- UMBRAGROUP ball screws have accumulated hundreds of millions of flight hours without major in-service issues.
- First to introduce corrosion resistant steel CRES FL LA2486.1SX [Cronidur® 30] today's global standard.

PRODUCT & SOLUTIONS

Integrating the different techno-bricks of actuation

BALL SCREWS



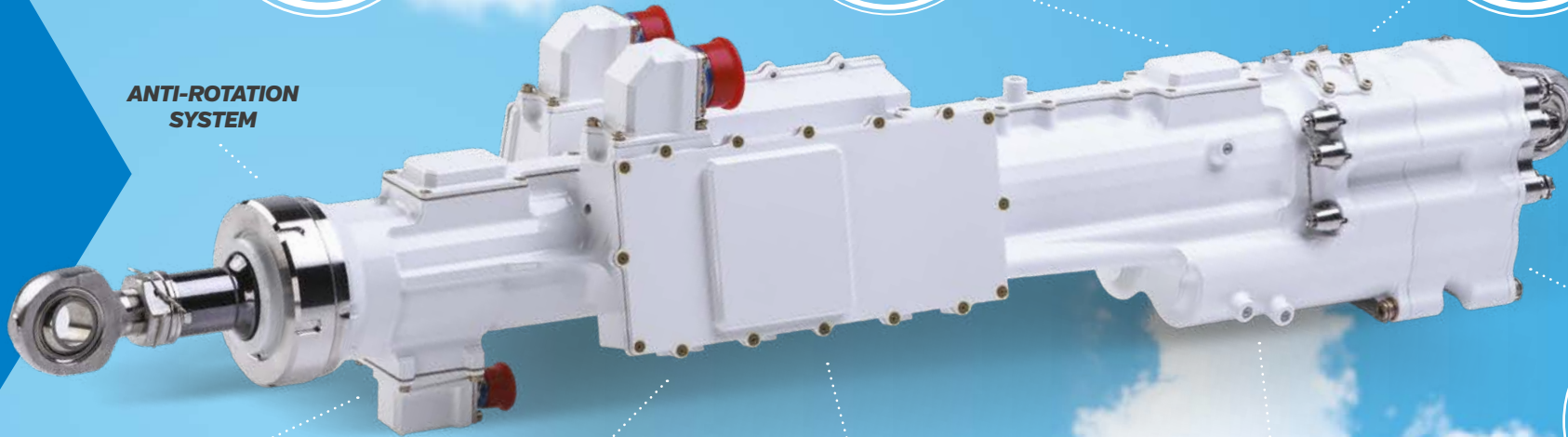
BEARING & SKEWED ROLLERS



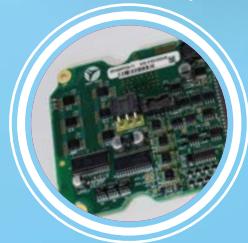
GEAR BOX ASSY



ANTI-ROTATION SYSTEM



LOCKING/UNLOCKING MECHANISMS



ELECTRONICS, PHM & SOFTWARE

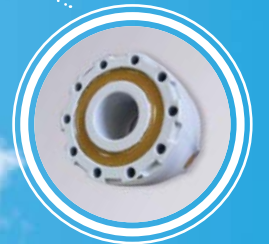


HIGH-STANDARD MACHINED MECHANICAL COMPONENTS



ELECTRIC MOTORS & ELECTRO-MECHANICAL BRAKES

ELECTRO-MECHANICAL BRAKES & CLUTCHES



TECHNOLOGY FOCUS

When jamming is not an option

Merging decades of experience with in-service products with a truly innovative spirit to permanently solve the jamming issue.

FAIL-SAFE Actuators

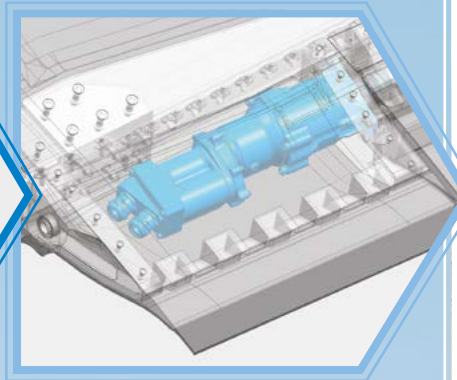
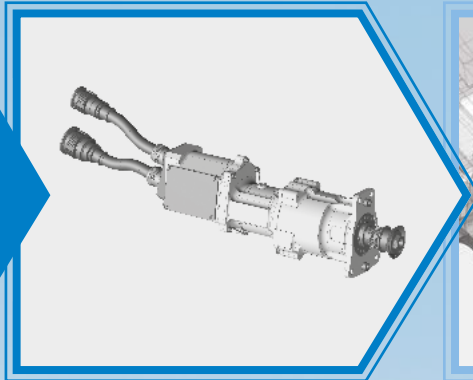


JAM-TOLERANT Ball screws

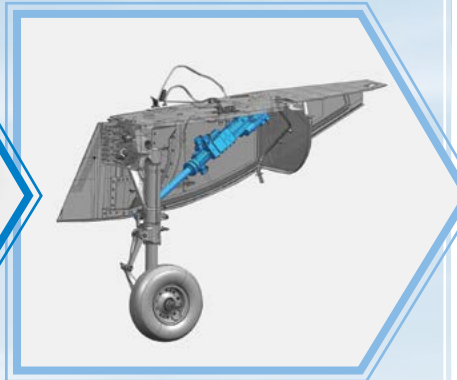
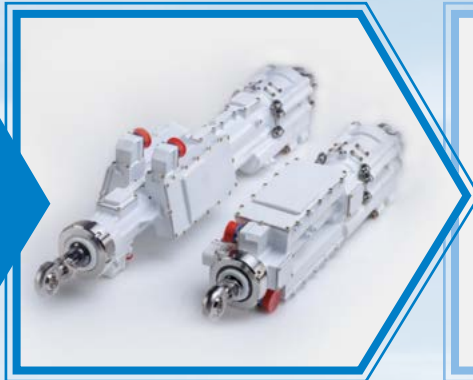


We begin the design process paying the highest level of attention to safety requirements, supporting the customer throughout the Certification process and then during the entire life of the aircraft.

**SAFETY
CRITICALS**
*Rotary
Actuators*



**SAFETY
CRITICALS**
*Linear
Actuators*



TECHNOLOGY FOCUS

Innovating for a better future

Reducing envelope and weight and lowering the cost of aircraft operations and fuel consumption.

SUSTAINABILITY

1992-2020

Cronidur®30 ball screws 158,000 produced, guaranteed for the entire life cycle of the aircraft

Less CHROME kg 66.858 kg/Year 2.388 ✓

Less PAINT l 94.800 l/Year 3.386 ✓

We are working for a better tomorrow: UMBRAGROUP is now developing solutions that drastically reduce maintenance tasks and the lubrication interval and also life-long lubrication solutions. A further step forward for a greener aviation.



TECHNOLOGY FOCUS

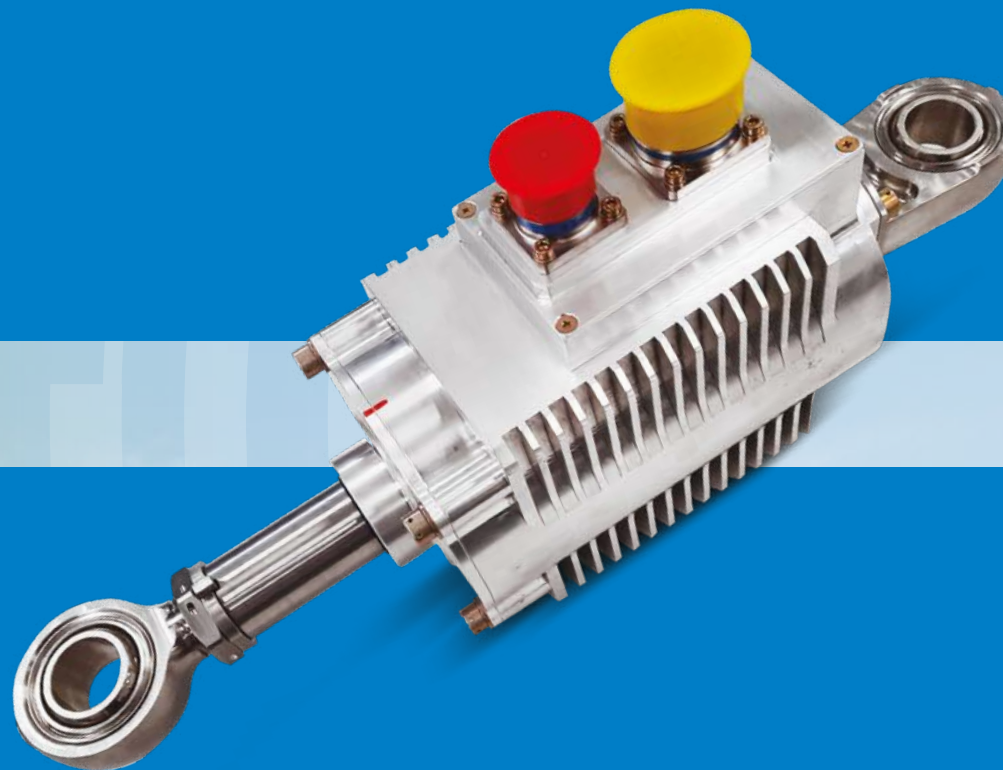
Innovating for a better future

ELECTRIFICATION

Integrating the different technologies of actuation systems towards more electric aircraft, taking advantage of a remarkable specialized knowledge on all the rolling elements design and production.

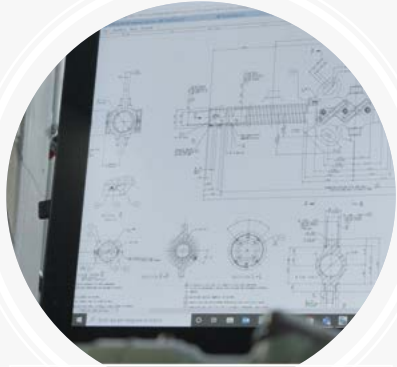
COMPETITIVENESS

Laying the foundations for the definition of a new standard of electromechanical actuators removing all the maintenance tasks, using health monitoring technologies and reducing the overall life cycle cost.



INTEGRATED PROCESSES AND CAPABILITIES

One unique management system



DESIGN AND DEVELOPMENT

Detail design

Electric Design

Electronics & Software

Functional Analysis

Maintainability

Reliability

Safety

Stress Analysis

Thermal Analysis

Verification & Validation



FAST PROTOTYPING

3D Measurements

Advanced robotics

Assembly

Tooling



INDUSTRIALIZATION

Built-to-print industrialization

Fixtures

Internal Specifications

Manufacturing sketches

Operative Procedures

Routing

Process PFMEA

Production Part Approval Process (PPAP)



MACHINING

CNC Lathe

Conventional Lathe

Grinding

Shaper

Honing Machine

Milling

Precision Deep Drilling

Turning

Whirling

INTEGRATED PROCESSES AND CAPABILITIES

One unique management system



SPECIAL PROCESSES NADCAP

Anodizing
Black oxide coating
Chromium Plating
Chromic and Sulfuric Anodizing
Copper Plating
Gas Nitriding
Gas carburizing
Hardening and tempering
Induction hardening
Low pressure hardening
Low pressure carburizing
Passivation
Precipitation hardening
Phosphate coating
Zinc-Nickel plating



ENVIRONMENTAL & STRUCTURAL TESTS

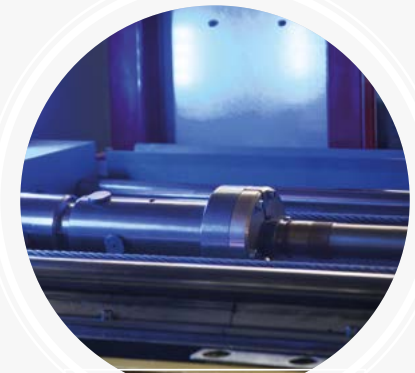
**Combined Vibration
+ Temperature Test**
Dynamic load Tests
Endurance Test
Environmental Test Limit
Fatigue Test
HALT Test
Noise Test
Operational shock and crash safety
Performances Test
Ultimate load Test
Vibration Test

Testing & Qualification
RTCA/DO-254, RTCA/DO-178B, RTCA/DO160G



EMI TESTS

Audio
Frequency Conducted Susceptibility
Electrostatic Discharge
**Emission of Radio Frequency
Energy** - Radiated and Conducted
Magnetic Effect
Power Input
Radio Frequency Susceptibility
- Conducted
Voltage Spike



SERVICE & SUPPORT

2 Repair stations
AOG service
ILS
Inventory mgmt

INTEGRATED PROCESSES AND CAPABILITIES

Your agile partner

We are a unique company: large enough to secure long term reliability and **structured capabilities** and **processes**, while remaining **flexible, fast** and **agile**.
Truly empowered resources working as **an integrated team with the customers**.

DESIGN AND DEVELOPMENT

Starting from idea generation
up to Certification



Design-To-Spec

PRODUCT INDUSTRIALIZATION

Having cost driven
integrated processes



Built To Print

VALUE ADDED SERVICES

Offering assembling, testing, special
processes and in-service support



Additional Capabilities

SERIAL PRODUCTION & SUPPLY CHAIN INTEGRATION

Solving customers' supply chain
existing hurdles



Alternative Source

CERTIFICATIONS

- CAAC
- EASA PART 21G
- EASA PART 145
- EN/AS 9100
- FAA
- ISO 9001
- ISO 14001
- ISO 45001
- NADCAP
- TCCA

INTEGRATED PROCESSES AND CAPABILITIES

One Team, More value



DEVELOPMENT SYSTEM

Integrated Global Development and Program Management Approach.

Global Co-Development Teams to speed Entry-Into-Service.



QUALITY SYSTEM

Global Approach to AS 9100 and AS 9145 Compliance.

Leveraging Umbra Global Tier One Supplier Quality Experience to elevate UMBRAGROUP Sub-tier Supplier Network.



PRODUCTION SYSTEM

All Aerospace Facilities supported by one MRP System and a unified Cybersecurity compliance approach.

Umbra Production System (UPS) operating globally to harmonize and centralize customer forecasting, planning and order management activities.



OUR PEOPLE

Developing a new future **TOGETHER**





THE VALTER BALDACCINI FOUNDATION

We strongly believe in the possibility of an ethical approach to economic development, which combines productivity and the centrality of the individual in strategic business decisions.

The Foundation was founded in 2015 to preserve the memory of Valter Baldaccini, founder of UMBRAGROUP, and to continue helping the most vulnerable through social development projects.

**“Together we sowed a great seed
that will become a great plant”**

Valter Baldaccini, 09/04/2014



Fondazione
Valter Baldaccini

www.fondazionevb.org/en





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www.umbragroup.com

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