



AERONAUTICS AND SPACE CALIBRATION

CALIBRATION | SOLUTIONS | TO | IMPROVE | YOUR | PERFORMANCE



METROLOGY IN THE AERONAUTICS AND SPACE INDUSTRY

The highly strategic industrial and technological sector of the aeronautics and space industry has enjoyed continuous growth, proven by order books for the medium and long term when compared to those in traditional industrial activity; with a constant increase in air traffic, global aircraft fleet renewals, and worldwide space programmes such as Globalstar, Galileo, etc.

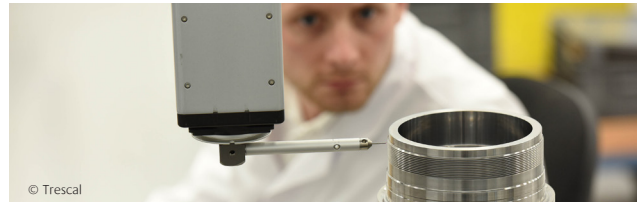
This industry is undergoing a highly significant transformation in response to the challenges confronting it in the following areas:

- > Economy: euro-dollar exchange rate, increasing scarcity of oil resources and certain raw materials, intense competition related to low number of actors, transfer of production, etc.
- > Technology: aircraft and equipment of the future, growing importance of R&D, improved airspace control, etc.
- > Environment: new constraints resulting from recent regulations on the environment, limitation of green house gases, noise emissions, etc.

To meet these challenges, the entire aeronautics and space industry must combine its forces, and its competitiveness largely depends on its supply chain, its efficiency and levels of performance. Mastering this change, as well as modernization and new means of industrial organization will lead to the emergence of service providers with the ability to face up to these technological, economical and geographical transformations.

Calibration services, which are often outsourced, are no exception to this rule, hence the need to choose a partner of sufficient size and structural capacity, able to understand the special constraints of the sector, and able to take charge of measurement asset and process management, as well as to carry out verification, calibration, repair and MOC (Maintained in Operational Condition) at quality and price levels in line with the requirements of the market actors.

Trescal's technical and logistical skills, demonstrated by its numerous national accreditations and its geographic coverage, give it the ability to bring genuine expertise in measurement process management and to supply innovative solutions guaranteeing substantial savings.



WHAT TRESCAL HAS TO OFFER

OUR SERVICES

Trescal, the global specialist in calibration services, offers manufacturers and suppliers in the aeronautics and space sector the largest parametric coverage, multi-scale and multi-domain skills, with highly effective logistics solutions:

- > Calibration/Verification and Tests
- > Repair/Maintenance
- > Measurement management and acquisition systems
- > Dynamic asset management and software solutions
- > Engineering/Training/Support/Consultancy

In certain cases, dedicated laboratories are set up on customer sites to provide a flexible service within close proximity.

OUR LOGISTICS

Trescal's geographic coverage enables operations to be conducted in its laboratories closest to customer sites, making use of a proven logistical system. Shuttle connections regularly collect and deliver instruments in bespoke vehicles, guaranteeing optimal, secure conditions of transportation.



WHY CHOOSE TRESICAL?

- > Contract management and reviews are handled by a dedicated team
- > Integration of aeronautics sector operational and organizational constraints thanks to the responsiveness and flexibility of our teams
- > A significant number of technical fields covered, including radio-navigation, radio frequencies, atmospheric pressure...
- > Over 20 years experience in aeronautical equipment
- > Control of measurement instruments operating costs
- > Reduction of ownership costs of up to 15% thanks to dynamic management and optimization of the equipment pool
- > Personalized logistics (collection of equipment from customers)
- > Complete expertise in aeronautical references and standards (AS 9100, EN 9100, JIS Q 9100, FAA, EASA, NADCAP, BNAE...)

OUR ADDED VALUE

- > A unique range of technical skills and services in the world: a "One-Stop-Shop" offer
- > A real proximity to our customers thanks to our regional branches and customers' satellites
- > A recognized expertise based on a worldwide network of accredited laboratories
- > Solid experience in equipment and processes dynamic management and optimization
- > A multi-brand expertise in repair and MCO for maintenance operations relevant to your asset inventory
- > An extensive knowledge of standard requirements in our customers' industrial sectors (ISO 9001, ISO 9100, IATF 16949, GMP, GLP, ISO 15189, ISO 22716, ISO 14001, ISO 10012, ISO/IEC 17025, ISO/IEC GUIDE 98-3 (GUM), VIM...)
- > A group technical division composed of engineers, and project managers in charge of coordinating and animating a structured network of experts



OUR AREAS OF EXPERTISE

CALIBRATION DOMAINS

- > Accelerometry
- > Acoustics
- > Chemical
- > Dimensional
- > Electricity/Magnetism
- > Force
- > Gas flow
- > Hardness
- > Humidity
- > Liquid flow
- > Mass/Scale
- > Pressure/Vacuum
- > Radiometry/Photometry
- > Temperature
- > Time/Frequency
- > Torque
- > Volume

INSPECTION AND TESTING

- > Analysis
- > HVAC control
- > Mechanical inspection
- > Pressure process and devices tests
- > Scale (Legal metrology)
- > Strain gauges testing
- > Testing machines (Force & Hardness)
- > Thermic and climatic testing

INDUSTRIAL MAINTENANCE

- > Audiovisual and multimedia
- > Automation
- > Electronics
- > Hydraulics
- > Process Control Systems
- > Robotics
- > Telecommunications
- > Transmissions

OUR CUSTOMERS

• Aerocontrollex • Agusta • AIA • Airbus Group • French Air Force • Astrium • Böhler • Bombardier • Airbus Defense & Space • CNES • Cobham • Daher Socata • Dassault Aviation • Dassault Falcon Services • DCNS • DGAC • Dutch Air Traffic Control • Eaton Aerospace • Airbus Helicopters • European Space Agency • Fokker • GE Aviation • General Dynamics • Goodrich • Thales Group • Hexcel • Honeywell Aerospace • Jean Gallay • NATO • Qinetiq • Rockwell Collins • Rolls Royce • Rolls Wood Group • Royal Air Maroc • Sabena • Safran • Sagem • SENER • Snecma Services • Sonaca • STELIA Aerospace • Tarom • Thales Alenia Space • Zodiac •

CUSTOMER TESTIMONIAL

PATRICE GIRARD – CENTRAL METROLOGY DIRECTOR – THALES ALENIA SPACE*

“In response to advances in calibration in recent years (standardization, equipment technology, economic constraints) Thales Alenia Space (TAS) has sought solutions which are both highly effective and economical for all its instruments. In this context, and for several years now, TAS has chosen to outsource the management and completion of calibration operations to Trescal, while maintaining complete mastery in the domain. This multi-site and multi-scale collaboration was recently renewed for a five-year period, and Trescal has been involved since the outset in the construction of TAS's metrology structure.

Over the course of time, our customer-supplier relationship has evolved into a true partnership. Trescal has set up two satellites in our sites in Toulouse and Cannes for greater responsiveness, and the Colombes site is linked to Trescal Paris. Everyday activities are organised on the basis of genuine teamwork between our respective employees.

We assign to Trescal all preventive and corrective maintenance of our test & measurement equipment, (approximately 20,000 items of equipment in areas such as mechanics, optics, physical measurement or high frequencies), as well as computer management of our equipment.

Trescal is systematically involved in our projects for evolution, development, and international activities, and has proven to be a partner able to commit resources and skills in new activities (accelerometry, etc.). Within the framework of the Globalstar constellation programme, Trescal is supporting us in the deployment of all measurement equipment to Italy.

Our collaboration with Trescal demonstrates on a daily basis the benefits of an industrial calibration service integrated into the customer process, evolving in a context of very high technical, quality and economic requirements. *2010

TRESCAL IN THE WORLD

AUSTRIA

Trescal Austria GmbH
Dr. Auner Straße 21, 2. OG Ost
A-8074 Raaba-Grämbach
Phone: +43 316 40 76 60
Fax: +43 316 40 76 60 20
E-mail: info.austria@trescal.com

BELGIUM

Trescal NV
Vosstraat 200
B-2600 Berchem / Antwerpen
Phone: +32 (0)3 542 62 90
Fax: +32 (0)3 542 62 89
E-mail: info.belux@trescal.com

CZECH REPUBLIC

Trescal s.r.o.
Modlánská 1862
CZ-41501 Teplice
Phone: +42 (0) 417 535 226
Fax: +42 (0) 417 575 630
E-mail: teplice@trescal.com

DENMARK

Trescal A/S
Mads Clausens Vej 12
8600 Silkeborg
Phone: +45 87 20 69 69
Fax: +45 86 81 26 54
E-mail: dkcalib@trescal.com

FRANCE

Trescal S.A.
Parc d'Affaires Silic
8 rue de l'Estérel - BP 30441
94593 Rungis Cedex (Paris)
Phone: +33 (0)1 56 70 36 36
Fax: +33 (0)1 56 70 36 30
E-mail: france@trescal.com

GERMANY

Trescal GmbH
Borsigstr. 11
64291 Darmstadt
Phone: +49 (0)6151 3094 0
Fax: +49 (0)6151 3094 444
E-mail: darmstadt@trescal.com

ITALY

Trescal s.r.l.
Via dei Metalli n°1
25039 - Travagliato (BS)
Phone: +39 (0) 30 6842501
Fax: +39 (0) 30 6842599
E-mail: it.info.bs@trescal.com

MOROCCO

Trescal Maroc
Zone Indusparc - Sidi Moumen
Chemin tertiaire 1015
20400 Casablanca
Phone: +212 (0) 5 22 74 09 01
E-mail: maroc@trescal.com

THE NETHERLANDS

Trescal B.V.
Storkstraat 2-4, Postbus 142
2722 NN Zoetermeer
Phone: +31(0) 79 343 0000
Fax: +31(0) 79 343 0099
E-mail: info.belux@trescal.com

ROMANIA

Trescal Romania Srl
Electromagnetica Business Park
266-268 Calea Rahovei, 5th district
50912 Bucharest
Phone: +40 (0) 21 423 01 30
Fax: +40 (0) 21 423 02 40
E-mail: romania@trescal.com

SPAIN

Trescal España de Metrologia S.L.U.
C/ Arrastaria, 21
28022 Madrid
Phone: +34 (0) 91 62 50 900
Fax: +34 (0) 91 62 50 960
E-mail: spain@trescal.com

SWEDEN

Trescal Sweden AB
Fraktgatan 6
633 46 Eskilstuna
Phone: +46 (0) 16 15 33 80
Fax: +46 (0) 16 15 33 99
E-mail: seinfo@trescal.com

SWITZERLAND

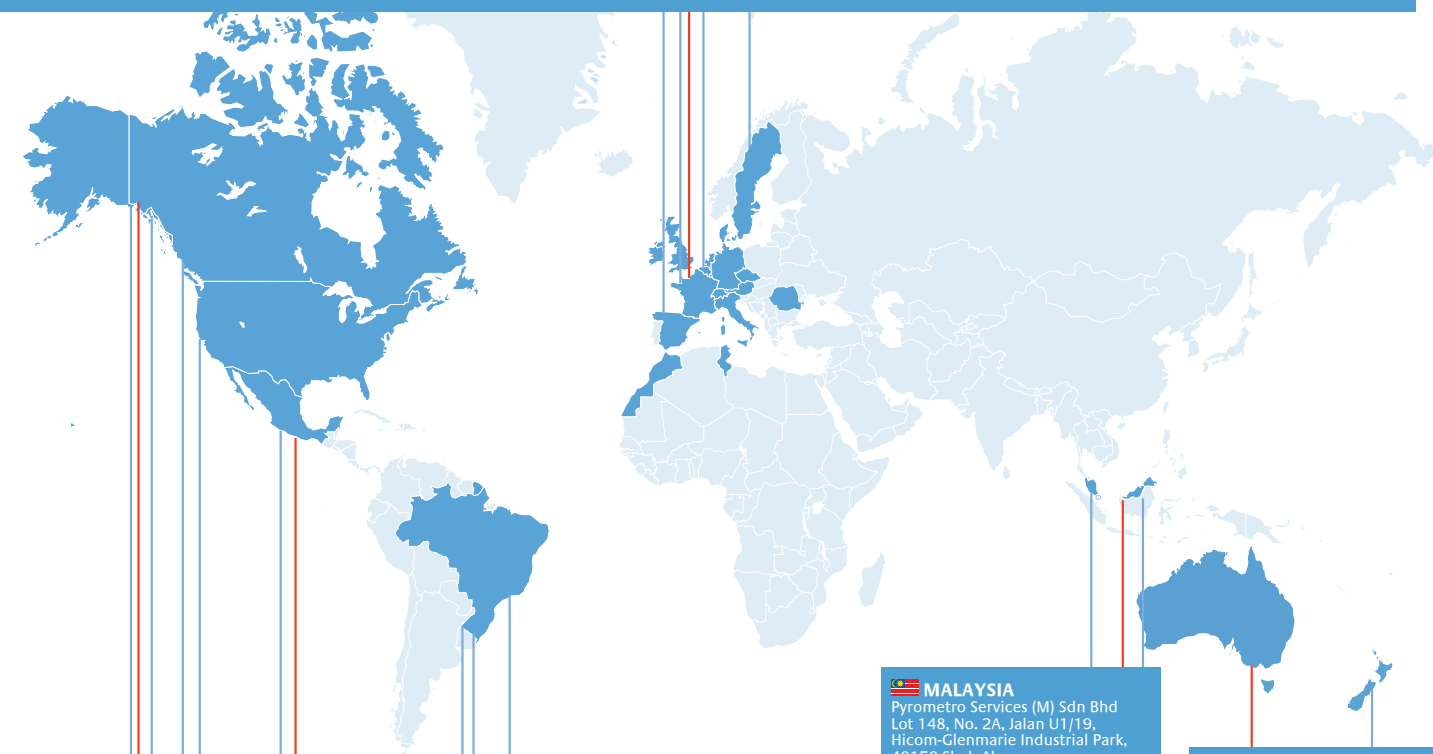
Trescal NV
110 chemin du Pont-du-Centenaire
CH 1228 Plan-Les-Ouates - Genève
Phone: +41 (0) 22 794 18 91
E-mail: suisse@trescal.com

TUNISIA

Trescal SARL
Commune de Fouchana - Mhamdia
Lot 4A ZI Mghira II
Ben Arous
Phone: +216 36 405 620
E-mail: tunisie@trescal.com

UK

Trescal Ltd
Saxony Way,
Blackbushe Business Park
Yateley, GU46 6GT
Phone: +44 (0) 1252 533 300
Fax: +44 (0) 1252 533 333
E-mail: info.uk@trescal.com



CANADA

Primo Instrument Inc.
4407, rue Charlevoix
Montréal-Nord, Québec
Canada H1H 1T6
Phone: +1 (514) 329-3242
Fax: +1 (514) 329-3750
E-mail: info.canada@trescal.com

UNITED STATES

Trescal Inc.
1200 N. Old US - 23
P.O. Box 559
Hartland, MI 48353-0559
Phone: +1 810 225 4601
Fax: +1 810 225 4602
E-mail: info@trescal.us

BRAZIL

MEC-Q
Rua Francisco Bonilha, 19
Vila Príncipe de Gales
Santo André - SP
CEP 09060-550
Phone: +55 (11) 3463-8211
E-mail: brazil@trescal.com

MEXICO

Trescal (KalibrixCal)
Av. Colinas del Cimatario 381
Querétaro
Qro 76090
Phone: +52 442 248 0250
E-mail: mexico@trescal.com

MALAYSIA

Pyrometro Services (M) Sdn Bhd
Lot 148, No. 2A, Jalan U1/19,
Hicom-Glenmarie Industrial Park,
40150 Shah Alam,
Selangor
Phone: +603-5569 1648
Fax: +603-5569 1548
Email: malaysia@trescal.com

SINGAPORE

Trescal Pte Ltd/NorthLab Pte Ltd
38 Senoko Road
Singapore 758110
Phone:
+65 6812 2500 (Trescal)
+65 6367 0800 (NorthLab)
Email:
singapore.info@trescal.com (Trescal)
sales@northlab.biz (NorthLab)

AUSTRALIA NEW ZEALAND

Auscal
126 Oxford Street
PO Box 1174
Collingwood VIC 3066
Phone: +61-3-9417 5688
Fax: +61-3-9417 1578
Email: australia@trescal.com

INTERNATIONAL ACCREDITATIONS



Sites and scopes available on trescal.com