# HAECO Group



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## **Group Services**



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# Installation of FANS and MMRs

In November, HAECO marked the completion of a programme to install Future Air Navigation Systems (FANS) and Multi-mode Receivers (MMRs) on 15 United Airlines (UA) Boeing 767-300 aircraft, with the redelivery to UA of the last aircraft in the programme. The installation of FANS will enable the aircraft to comply with new requirements, which will come into effect in 2014 for operators in European airspace. The MMRs will supplement existing Instrument Landing System (ILS) receivers to provide additional GPS functionality.

HAECO commenced the programme to install FANS and MMRs on the Boeing 767-300 aircraft in the first quarter of 2013.



The ILS receiver with additional GPS functionality after MMRs installation (highlighted in orange).



## **Cabin modification for Condor**

TAECO has signed an Aircraft Maintenance Agreement with Condor Flugdienst GmbH (Condor) to provide cabin modification services on 12 Boeing 767 aircraft during 2013-2014, as well as performing C Checks on eight of the aircraft. The first Boeing 767 input was completed on 28 October and TAECO received high praise from the airline for its quality and world-class workmanship.





## **STAECO** commences conversion programme

In October, Taikoo (Shandong) Aircraft Engineering Co. Ltd. (STAECO) commenced passenger-to-freighter conversion on two Boeing 737-300 aircraft (B-2961 and B-2962), which have recently been sold to China Postal Airlines by Shandong Airlines. STAECO undertook delivery checks on the two aircraft for the purchaser in September and is scheduled to complete the conversions by year-end.

The aircraft are the first of five Boeing 737-300s, which will be delivered to China Postal Airlines over the next year as Shandong Airlines upgrades its fleet to Boeing 737-800s. Both airlines are regular STAECO customers and have a high regard for the company's efficiency and quality.



## First corporate jet for STAECO

On 4 November, STAECO redelivered a Bombardier Challenger 605 aircraft (B-3561) to Beijing Good Jet Airlines, after repainting the aircraft in a new livery. The aircraft is STAECO's first input from newly-established Beijing Good Jet Airlines, which specialises in private jet charters, and is also the first corporate jet that the maintenance provider has handled since its establishment. STAECO's project team worked seamlessly to ensure quality, successful completion and on-time redelivery of the aircraft, laying a solid foundation for future collaboration with Beijing Good Jet Airlines.

### Line Maintenance →



## JAL forges closer partnership with HAECO

HAECO has been appointed line maintenance and ramp services provider for Japan Airlines (JAL) during transits at Hong Kong International Airport. JAL currently operates two daily services from Tokyo to Hong Kong, using Boeing 767 and Boeing 777 aircraft.

JAL is one of the HAECO Group's strategic customers and the two parties are currently seeking a long-term partnership in Hong Kong as well as in Xiamen for airframe maintenance services. With a growing number of passengers flying between Hong Kong and Japan, HAECO is well positioned to capture future business opportunities in this market and the new partnership with JAL strengthens HAECO's position in the Asia Pacific region.

### Line Maintenance →

## **ANA** wins for Cabin Cleanliness

In July, All Nippon Airways (ANA) was named "Best Aircraft – Cabin Cleanliness" in the SKYTRAX World Airline Awards 2013. As a long-standing business partner and cabin cleaning service provider for ANA in Hong Kong, HAECO was delighted to share in this recognition and received a certificate of appreciation from ANA, complimenting the efforts and quality services delivered by HAECO's ramp services team.

The annual SKYTRAX World Airline Awards provide a global benchmark of airline excellence; travellers from over 160 countries take part in the airline passenger satisfaction survey to decide the award winners.



HAECO General Manager Line Maintenance H.K. Li (left) received a memento from Station Manager, All Nippon Airways Co. Ltd., Mr. Hisao Okamoto.

## Component Services +

## Taikoo Spirit gains new capability

Taikoo Spirit AeroSystems (Jinjiang) Composite Co. Ltd. (Taikoo Spirit) has successfully completed the Designated Modification Design Organisation Representative (DMDOR) repair approval process for Airbus A320 V2500A5 Thrust Reversers. The approval was gained using TAECO's DMDOR to issue Civil Aviation Administration of China (CAAC) approval for "out-of-manual" repairs or repairs that exceed the limit of the Component Maintenance Manual (CMM) or Structural Repair Manual (SRM).

Working with local Xiamen CAAC and Shanghai CAAC officials, TAECO's DMDOR was able to extend Federal Aviation Regulations (FAR) 78 and 71 approval capabilities to support Taikoo Spirit. This additional capability means that Taikoo Spirit can now issue CAAC DMDOR repair approvals along with Federal Aviation Administration (FAA) Designated Engineering Representative (DER)/European Aviation Safety Agency (EASA) Design Organisation Approvals (DOA) for "out-of-manual" repairs.

This new capability offers a clear competitive advantage to Taikoo Spirit, enabling the company to engage more Chinese carriers and to push the 'repair' versus 'replace' philosophy. The carriers in turn will benefit from significant cost savings.



## Component Services +



## First Airbus A330 T700 C-Duct overhaul

In November, Taikoo Spirit has recently completed its first Airbus A330 Trent 700 C-Duct overhaul for Cathay Pacific Airways under a 10-year repair/overhaul programme awarded to the company by Aircelle. Taikoo Spirit is Aircelle's "Trent 700 Authorised Repair Centre" in the Asia Pacific region.

## **Component Services** →



# Inner Wall Replacement for China Eastern

In partnership with Aircelle, Taikoo Spirit is to carry out Inner Wall Replacement (IFS replacement) on two Airbus A330 Trent 700 C-Ducts for China Eastern Airlines for the first time. Taikoo Spirit will utilise the purpose-built toolkit provided by Original Equipment Manufacturer Aircelle to accomplish the IFS replacement. The toolkit is the only one of its kind and was built to accomplish simultaneous replacement of 6 o'clock Beam and Outer Fixed Structure skin and IFS replacement.

## Component Services +





## **TALSCO** resumes operations

Taikoo (Xiamen) Landing Gear Services Co. Ltd. ("TALSCO") resumed operations in December after a localised fire at the premises in November last year.

The company's U.S. Federal Aviation Administration (FAA) approvals have been reinstated for its capabilities on the full series of Boeing 777s, 767s, 757s, 747s, 737NGs, 737CLs and Airbus A320s. Approvals from other national authorities including European Aviation Safety Agency (EASA) and Civil Aviation Administration of China (CAAC) have also been reinstated.

TALSCO took the opportunity to revamp its facilities and operational processes, including the addition of a new plating shop, which will be completed in the first quarter of 2015. The improvements, supported by updated equipment, additional spares, and a highly skilled workforce, incorporate the latest design elements to meet future market needs, focusing on safety, quality, and production efficiency. The company is now well positioned to offer more rotable asset options to large fleet operators requiring multiple landing gear overhaul events within short turnaround time.

## Engine Overhaul >>



## More Gold accreditations for HAESL

Another four of Hong Kong Aero Engine Services Limited's (HAESL) Centres of Excellence (CoE) have recently been awarded Gold accreditation and two others have been awarded Blue accreditation by Rolls-Royce. The accreditations recognise HAESL for establishing world-class repair standards within the Rolls-Royce Global Aero Repair and Overhaul Network.

These awards represent a significant milestone for HAESL. Opened in 2011, all of HAESL's component repair cells in the CoE Phase V Building are now accredited to Gold standard; one of them was upgraded from Blue to Gold standard within a year.

With the new accreditation standards, HAESL accounts for nearly half of the 20 Gold and Silver accredited CoEs globally and more than half of the global total at Gold standard. Another five HAESL repair cells are currently working towards their CoE accreditation.

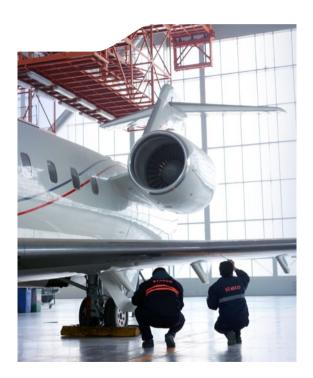
## Engine Overhaul +

## **New authorisation for STAECO**

STAECO has successfully passed an audit and obtained approval from GE Aviation to become its first Authorised Service Centre (ASC) for CF34-series engines in Mainland China. STAECO is one of only a handful of ASCs in the world.

The authorisation represents a big step forward for STAECO's engine maintenance and service capabilities. During the audit, STAECO was recognised for its excellent operational management and strong technical capabilities. GE Aviation representatives also expressed a strong desire for further cooperation with STAECO.

The CF34-series engine is a widely used GE engine with extensive applications, a reputation for reliability and good maintenance capabilities. In addition to its typical application on Bombardier CRJ and Embraer ERJ aircraft, it is also used on Bombardier CL850, CL604, CL605 and other principal corporate jet types and it is expected that there will be a strong demand for the maintenance of CF34-series engines.



## Cabin Reconfiguration & Integration Services →





## **JAL** cabin modification

On 18 November, TAECO celebrated the successful completion of its first Boeing 767 Sky Suite II cabin modification for Japan Airlines (JAL). The modifications include new flat-bed seats for the airline's business class, and new Sky Wider economy class seats that offer more legroom to airline passengers. A successful test flight, immediate STC issuance and on-schedule redelivery of the aircraft marked an auspicious start to the 9-aircraft JAL/TAECO Boeing 767 cabin modification project, which is scheduled to be completed by July 2014.

## Freighter Conversion +

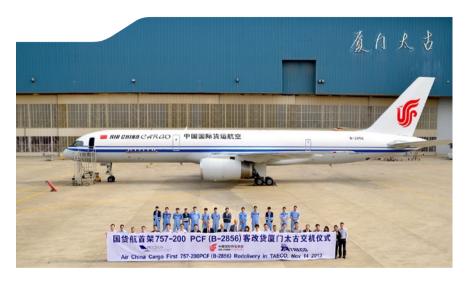


## 100th Freighter Conversion

On 31 October, HAECO Group celebrated its 100<sup>th</sup> freighter conversion with the completion of a Boeing 737 conversion performed by its joint venture MRO, STAECO. The HAECO Group possesses extensive technical capabilities and maintains long-standing business relationship with STC partners The Boeing Company, PEMCO and Precision Conversions, LLC. To date, the Group has redelivered 100 converted freighters to 25 airline customers worldwide, including 39 Boeing 737SF, 40 Boeing 747-400BCF, 15 Boeing 747SF and six Boeing 757PCF.

In celebration of this achievement, HAECO CEO Augustus Tang said: "The 100th freighter conversion represents a significant milestone of the HAECO Group. It is a vote of confidence from our customers and business partners, reflecting their trust in our strong technical expertise and operational excellence. The Group will continue to develop and enhance its technical capabilities, with the aim of providing airlines with more comprehensive freighter conversion services in the future."

## Freighter Conversion +



## First Boeing 757-200PCF for ACC

In November, TAECO completed its first Boeing 757 passenger-to-freighter conversion for Air China Cargo. The aircraft is TAECO's seventh Boeing 757-200PCF conversion with its Supplemental Type Certificate (STC) partner Precision Conversions, LLC. TAECO completed its first Boeing 757-200PCF conversion back in 2010

The Boeing 757-200PCF is a new freighter type in Air China Cargo's fleet. Currently, the cargo carrier operates three freighter aircraft and three converted freighters. In addition to the conversion, the input also included a heavy maintenance check, aircraft exterior strip and repaint.

## Parts Manufacturing +





## Moog contract

In November, Moog Inc. appointed TAECO as a qualified supplier for aircraft components. Moog Inc. is a global designer, manufacturer and integrator of motion control products and systems, including aircraft structural parts. A five-year agreement has been signed by the two companies, with mass production set to commence in 2014, and TAECO is contracted to manufacture around US\$2.8 million worth of components for Moog Inc.

## Technical Training +



## **HAECO AMMT Programme update**

HAECO is always keen to build industry talent and encourage staff development. This year, the company has introduced a new Aircraft Maintenance Mechanics Trainee Programme (AMMT), with the aim of providing professional and academic development to both new and existing staff. Interest in the new programme and applications received were overwhelming. Following a strict selection process, 90 trainees were offered the opportunity to begin studying part-time for a Diploma or Higher Diploma in Aircraft Maintenance while they work. As of December, the company has recruited over 450 trainees into its workforce this year.





## **HAECO** to acquire TIMCO

On 24 October, HAECO announced that it has entered into a conditional stock purchase agreement for the acquisition of TIMCO Aviation Services Inc. (TIMCO), a US-based MRO service provider. Subject to satisfaction of the conditions in the stock purchase agreement, the acquisition is expected to complete in the first quarter of 2014.

Mr. Christopher Pratt, Chairman of HAECO said: "The acquisition of TIMCO will expand HAECO's operations and broaden its

sources of revenue. We believe that the business and operations of TIMCO will fit well strategically with the existing business of HAECO. In combination, they will be able to offer enhanced aircraft maintenance and cabin modification services to a wider range of customers. Additionally, the HAECO Group will be able to accelerate the development of technical capabilities while providing a comprehensive range of products, including for narrow-body and regional aircraft."





## **HAECO** introduces Mobile App

On 11 November, HAECO introduced a mobile app named "HAECO Message Centre" as a new means of staff communication. The mobile app is available on both Android and iOS platforms to most mobile devices in the market. It covers a broad range of information including the latest HAECO news, a message from the management, recognition for outstanding staff, employee activities, canteen menus and real-time weather updates.

The new mobile app enhances staff communication by keeping them updated with company news at any time and place.





## **Growing industry talent**

On 13 November, HAECO and HAESL joined the Hong Kong Polytechnic University (PolyU), Boeing Research & Technology and Hong Kong SAR Government officials in celebrating the inauguration of PolyU's Aviation Services Research Centre (ASRC). HAECO Executive General Manager (Operations Support) Patrick Wong (5th from left) and HAESL General Manager Operations Mick Brown (4th from left) attended the event.

Committed to developing talent within Hong Kong's aviation industry, HAECO and HAESL have provided financial contributions and advisory support to the ASRC. It is hoped the HAECO Group's participation will encourage creative thinking, support the development of innovative new concepts and encourage more bright young people to consider a career in the MRO industry.





## **TAECO** welcomes VIP guest

On 12 September, Chief Minister of the Malaysian state of Terengganu, Dato Seri Ahmad Said (7th from left), visited TAECO with his delegation. During his visit, the Chief Minister spoke very positively about the training that Malaysian students have received at TAECO. He also talked of Terengganu's plans for future aviation development and of future co-operation on TAECO training schemes.

Since April 2012, TAECO has been providing EASA Part-147 training to students from Terengganu. Further type training and on-the-job training collaborations are under discussion. ►

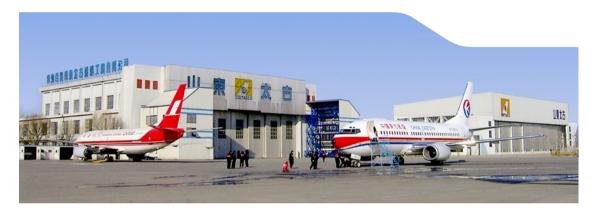


## **Boeing CAS visit**

On 28 September, a team of executives from Boeing Commercial Aviation Services visited TAECO; the delegation was led by Director Supplier Management for Boeing (5th from right), Ms Ursula J. English. Representatives from TAECO's Parts Manufacturing Department welcomed the Boeing team, and led them on a tour of the facility; there was also an opportunity for an exchange of views on future collaboration between the two parties.

Since 2006, TAECO has been a Boeing tier-one supplier for Boeing Converted Freighter (BCF) projects and spare parts, with over 5,000 items approved to date by the aircraft manufacturer.





## STAECO recognised for building corporate culture

On 24 September, STAECO was recognised as an Advanced Organisation in Enterprise Culture Construction by the Shandong Province Corporate Culture Institute. The award honours organisations in Shandong Province that have made outstanding achievements in establishing corporate cultures that promote scientific development, and improve core competitiveness, productivity and overall quality.

Since its establishment in 1999, STAECO has striven to promote its mission of providing world-class line and airframe maintenance and modification services for narrow body and regional aircraft.





## **HAECO** welcomes young students

On 21 November and 3 December, over 120 Grade 5 students from the Hong Kong and Tai Po Japanese School visited HAECO. The visit was jointly organised by HAECO and Japan Airlines (JAL), with the aim of promoting interest in the aviation industry to the younger generation.

The students were offered a hangar tour, an introduction to aircraft engineering and time for a Q&A session. A "Paper Plane Making and Flying Competition" held alongside real aircraft in a hangar bay, concluded the fun-filled day.





## **HAECO** achieves excellence in reducing waste

In 2013, HAECO was once again granted a Wastewi\$e label by the Environmental Protection Department (EPD) of the Hong Kong SAR Government; this time around, the company has been awarded the status of "Class of Excellence" in reducing waste.

Committed to working with its staff towards a greener planet, HAECO has been a member of the EPD's Wastewi\$e waste reduction scheme since 2003. In achieving excellence in environmental protection, the company has implemented green everyday practices including:

- Donating computer, electronic and electrical equipment to licensed recyclers for charitable purposes;
- Collecting festive and seasonal plants for recycling and proper disposal;
- Encouraging electronic means of communication to reduce paper consumption;
- · Participating in collecting and recycling food waste as fish feed;
- · Collecting and recycling printer cartridges;
- Collecting and recycling paper, plastic and metal waste.







## **HAECO** recognised for energy saving

On 5 September, HAECO received the Silver Award in the Commercial and Industrial category at the GREEN PLUS Recognition Awards organised by China Light and Power.

Amongst many energy-saving measures introduced by the company, HAECO's implementation of a new radiant cooling system was most noteworthy for its contribution in improving energy efficiency of the air-conditioning system by over 40%, thereby reducing the company's carbon footprint. Compared to traditional air conditioning systems, the radiant cooling system has the advantages of higher energy efficiency, a more comfortable operating environment and lower maintenance costs.



## **Interview with Cebu Pacific**

Mr. Alex Reyes General Manager, Long Haul Division



Cebu Pacific appointed HAECO to provide Inventory Technical Management (ITM) and Fleet Technical Management (FTM) services for its A330-300 fleet earlier this year; can you tell us why Cebu Pacific chose to work with the HAECO Group?



Can you share with us your experience of working with the HAECO Group so far?

A Mr. Alex Reyes



## Interview with Cebu Pacific

Mr. Alex Reyes General Manager, Long Haul Division



- What are the operational and cost benefits of having the HAECO Group manage the component pool and maintenance of a relatively new aircraft type in your fleet?
- A Mr. Alex Reyes
- What challenges is Cebu Pacific facing? How do you see the role of the HAECO Group in helping Cebu Pacific overcome some of these challenges?
- A Mr. Alex Reyes



## **HAECO Group Capabilities**

Aircraft Type	EASA		FAA		HKCAD*		CAAC*	
	Airframe Maintenance	Line Maintenance	Airframe Maintenance	Line Maintenance	Airframe Maintenance	Line Maintenance	Airframe Maintenance	Line Maintenance
A300-600 / A310	Plantenance	† †	<u>+</u>	<u>+</u>	Pidifferidifee	† †	Plantenance	Pidilitellance
A318	<u>+</u>	<u> </u>	T	T		TT	<u>+</u>	
	<del>+</del> <del>+</del> <del>+</del> <del>+</del>	<u> </u>	<u>+++</u> +	<b>†</b>	<b>† †</b>	<u>†</u> †	<del>+</del> ++	1
A319 / A320 / A321 A330	† †	<u> </u>	†	<u>⊤</u>	<u>†</u> †	<u> </u>		
A340	<u>†</u> †	<u> </u>	Ţ	エエ	† †	<u> </u>	<u>†</u>	Ţ
A380	TT	エエ			TT	<u> </u>	T	
737	<u>++</u>	<u>+</u>	<u>+++</u>	<b>†</b> †		<u>⊤</u>	<u>†</u> †	+
737NG	TT	工	† † †	<u> </u>	<b>† †</b>	<u> </u>	† †	<u>⊤</u>
747-200 / 300	T	<b>†</b> †	† †	<u> </u>	† †	<u> </u>	<u> </u>	<b>エ</b> エ
	<u>+</u> +							
	<u>+</u> +	<u> </u>	<u>+</u> +	<u> </u>	<u>+</u> +	<u> </u>	<u>+</u>	
	<b>†</b>	<u>++</u>	<b>±</b>	<u>+</u>	<u>+</u>	<u>+</u>	1	
757	<u>+</u> +	<u>++</u>	<u>+</u> +	<u> </u>	<u>+</u>	<u>+</u>	+	
767	<u>+</u> +	<u>++</u>	<u>†</u> †	<u> </u>	<u>+</u>	<u> </u>	+	
777	<b>† †</b>	<u> </u>	<b>†</b>	<u> </u>	<b>†</b> †	<u> </u>	<u>+</u>	
MD11	<u> </u>	<b>† †</b>	<b>†</b>	<b>†</b> †		<u> </u>	<b>+</b>	
CL-600	<u></u>					<u>+</u>	<u></u>	<u>+</u>
SAAB340B BD-700-1A10							+	
BD-700-1A10							<b>+</b>	<u>+</u>
G450 ERJ170								<b>+</b>
ERJ170						<u>†</u>		
ERJ190							+	
CRJ200 / 700							+	+

<sup>\*</sup> Maintenance of aircraft registered in PRC, Macau SAR and Hong Kong SAR respectively is provisioned under the Joint Maintenance Management (JMM) cooperation arrangement.

Capabilities of the HAECO Group include but not limited to major aircraft types as listed above.

+ HAECO Hong Kong Aircraft Engineering Co. Ltd. TAECO
Taikoo (Xiamen) Aircraft
Engineering Co. Ltd.

↑ STAECO
Taikoo (Shandong) Aircraft
Engineering Co. Ltd.

Sichuan Aircraft Maintenance Engineering Co. Ltd.

The Group also has approvals on aircraft, engines and components maintenance from the other regulatory authorities across Asia, Africa, the Pacific, the Caribbean and Australia, which include Australia CASA, Azerbaijan SCAA, Bangladesh CAAB, Bermuda DCA, Canada TC, Fiji Islands CAAF, India DGCA, Indonesia DGCA, Israel CAAI, Japan JCAB, Jordan CARC, Kenya CAA, Korea MLTM, Macao SAR JMM, Malaysia DCA, Mauritius DCA, Mongolia MCAA, Nepal CAA, Nepal CAA, Papua New Guinea CAA, Philippines CAAP, Qatar CAA, Republic of China CCAA, Singapore CAAS, South Africa SACAA, Sri Lanka CAA, Thailand DCA, United Arab Emirates GCAA. Vietnam CAAV.



#### **Executive and Private Jet Cabin Completions**

- Airbus-approved Completion Centre for Executive and Private Jets
- Boeing Business Jets VIP Completion Centre

#### Cabin Reconfiguration / Modification

#### Winglet Modification

- Boeing 737 / 757 / 767

#### **Freighter Conversion**

- Boeing 737-300 / 400
- Boeing 747-200 / 300 / 400
- Boeing 757-200

#### **Engine Overhaul**

- Rolls-Royce Engines (RB211 & Trent)
- GE90 Engines

#### **Landing Gear Overhaul**

- Boeing 737 / 747 / 757 / 767 / 777
- Airbus A320 / Airbus A330

#### Composite Repair / Overhaul

- Airbus A330 Trent 700 T/R & N/C
- Airbus A320 V2500 A5 T/R, F/C & N/C
- Boeing 737NG CFM56-7 T/R
- Boeing 777 Trent 800, GE90 90/94/110/115, PW4000 T/R
- Boeing 767 / 747 CF6-80C2, PW4000 T/R
- Gulfstream BRJ725 T/R, F/C & N/C

#### Wheels & Carbon Brakes Repair/Overhaul

- Boeing / Airbus / CRJ / EMB / MD

#### Tyre Retreading Services

- Boeing 737C / 737NG / 747 / 757 / 767
- CRJ 200
- Bombardier -8 300/400
- Dornier 328
- Embraer 145

## Aircraft Parts Production & Manufacturing

#### Approved under:

- HKAR-21 POA
- Boeing BQMS
- BVQI (AS9100-Rev C)
- Nadcap

#### **Design & Engineering**

#### Approved under:

- HKAR-1 E3 Design Organisation Approval
- HKAR-21 Design Organisation Approval
- SAR-21 Design Organisation Approval
- CAAC DMDOR Designated Design Modification Organisation Approval

#### Maintenance Training & Examination

#### Approved under:

- HKAR-147
- CCAR-147
- EASA Part-147
- SAR-147
- HKCAD Aircraft Maintenance Basic License Examination Site
- CAAC Aircraft Maintenance Basic License Examination Site
- EASA Aircraft Maintenance Basic License Examination Site

#### Aircraft Painting

#### Non Destructive Testing (NDT)

#### **Hydrostatic Test Facility**

#### Approved by:

- U.S.A. - DOT

#### Calibration Laboratory (CALMET)

- HOKLAS accredited laboratory; Mutual Recognition Arrangement through APLAC on traceability of standards
- CNAS accredited laboratory

