

Click here or visit www.epicos.com

Volume 5 Number 39- Wednesday, 25 September 2013

Special Focus: Republic of Colombia's Metal Processing, Parts & Components Industry

- 1. Republic of Colombia's Metal Processing, Parts & Components Industry
- 2. Interview with Mr. Jorge Felipe Gonzalez, General Manager of THOR S.A.
- 3. Interview with Mrs. Lina María Mesa, Mechanical Engineer at the company INDUSTRIAS HRV LTDA.
- 4. Interview with Mr. Andres Bernal, Assistant Manager of the company TRATAMIENTOS TERMICOS-TRATAR S.A.
- 5. Conclusions and Highlights of the Republic of Colombia's Metal Processing, Parts & Components Industry
- 6. Interview with Mr. Alexander Macias, Manager of the company EYCAL METALMECANICA LTDA.
- 7. Interview with Mr. Edwin Stick Bernal, Administrative Manager of the company PROVEMEL LTDA. PROVEEDORA METALMECANICA LTDA.
- 8. Interview with Mr. Carlos Andres Gomez Ardila, Markets & Sales Analyst of the company DANA TRANSEJES S.A.

Part II

Part I

Epicos Newsroom

- 1. Airbus predicts 29,000 new planes needed by 2032
- 2. Airline industry calls for CO2 emissions plan
- 3. EU urges global deal on airline pollution
- 4. Army conscription dies out in Europe
- 5. Airlines profit outlook downgraded

Republic of Colombia's Metal Processing, Parts & Components Industry





Following the analysis of Epicos on the Republic of Colombia's industrial sector of metalmechanics (which includes Metal Processing, Parts & Components, Mechanical, Electromechanical, Hydraulic and Pneumatic components), it was identified that this sector represents a significant concentration of

capabilities and of related companies acting as manufacturers, integrators and lower-tier suppliers. The total number of such companies, part of the Epicos National Industry Support Project, is (158) representing the 13.8% of the total capabilities mapped as part of the project. Fifty (50) of these companies provide services to the industrial domain of automotive. From the remaining companies, eighteen (18) provide services in the Ships, Vessels, Submarines & related equipment category. Additionally, there are twelve (12) companies that are active in the Aircraft, Helicopter, UAV and Spacecraft category. INDUMIL - INDUSTRIA MILITAR is the leading company with related metal-mechanic capabilities in the manufacturing of weapons and ammunitions, supported by a number of other companies that vlaguz related metal-mechanics parts for the integrated products developed/manufactured by INDUMIL - INDUSTRIA MILITAR. The remaining, are companies providing general services and parts to the industries of construction, food, oil & gas and mining among other. These companies are the following:

- 1. AB INFLATABLES (AB MARINE GROUP)
- 2. ACERIAS DE COLOMBIA ACESCO & CIA S.C.A.
- 3. ACEROS Y ALUMINIOS CIA S.A.
- 4. AEROSOLUTIONS LTDA.
- 5. ALEACIONES TECNICAS LTDA.
- 6. ANTARES IAC (INVERSIONES ANTARES LTDA)
- 7. ARMOR INTERNATIONAL S.A.
- 8. ASMETALES (ASOCIACION METALURGICA Y METALMECANICA)
- 9. ASOCIADOS R.C. S EN C
- 10. ASTILLERO GUSTAVO MARQUEZ Y CIA - DOBLACO
- 11. BLINDAJES ISBI LTDA.
- 12. BLINDEX S.A.
- 13. BONEM S.A. (GRUPO CHAIDNEME)
- 14. C.I. INTEC (C.I. INTERCCOMERCIAL S.A.)
- 15. CABLES DE ENERGIA Y DE TELECOMUNICACIONES S.A.
- 16. CARROCERIAS ANDINA LTDA.
- 17. CARROCERIAS EL SOL S.A.S.

- 18. CARROCERIAS ESPECIALES LTDA.
- 19. CELSA S.A.
- 20. CENTIGON COLOMBIA
- 21. CENTRO DE ASISTENCIA TÉCNICA A LA INDUSTRIA (ASTIN-SENA)
- 22. CÍA. GENERAL DE ACEROS S.A.(COMPAÑÍA GENERAL DE ACEROS)
- 23. CITEMCO LTDA. (COMERCIALIZADORA INTERNACIONAL EMCOCABLES)
- 24. CN CORTAR S.A.
- 25. CNC LASER DE COLOMBIA S.A.
- 26. CODINTER
- 27. COLAUTO
- 28. COLOMBIANA DE MECANIZADOS COLMECAN S.A.S.
- 29. COLTECNICA LTDA.
- 30. COMPAC COMPANIA DE PARTES Y ACCESORIOS LTDA.
- 31. COMPAÑÍA NACIONAL DE BRONCES LTDA. (CONALBRONCES)
- 32. CONSTRUMECAM
- 33. CORENAL

- 34. CORPACERO
- 35. CORPORACIÓN DE CIENCIA Y TECNOLOGÍA PARA EL DESARROLLO DE LA INDUSTRIA NAVAL, MARÍTIMA Y FLUVIAL (COTECMAR)
- CORPORACIÓN DE LA INDUSTRIA AERONÁUTICA COLOMBIANA S.A. -CIAC
- 37. DE LAPICES A COHETES S.A.S.
- 38. DELIDIA CORPORATION LTDA.
- 39. DIACO S.A.
- 40. DIMALTA
- 41. DINACOL LTDA.
- 42. DPI INGENIERIA Y CONSULTORIA LIMITADA
- 43. DURABOTES S.A.S.
- 44. DYNACAD
- 45. ELESEG S.A.
- 46. ESLYM LTDA.
- 47. EUROPESADOS S.A.S.
- 48. EVOTEC S.A.S.
- 49. EYCAL METALMECANICA S.A.
- 50. FABRITORNILLOS LTDA.
- 51. FAMAG LTDA.
- 52. FAMEC
- 53. FANALCA AUTOPARTES S.A.
- 54. FANAUTO S.A.S.
- 55. FERRACEROS S.A.S.
- 56. FIRPOL S.A.
- 57. FIS LTDA. (FERRETERIA TALLER IGNACIO SIERRA)
- 58. FORJADOS S.A.
- 59. FORJAS BOLIVAR S.A.
- 60. FRACO S.A.
- 61. FRANCOLOMBIANA DE CONSTRUCCION LTDA.
- 62. FUNDICION TECNICA LTDA.
- 63. FUNDICOM S.A.
- 64. GABRIEL DE COLOMBIA S.A. (GRUPO CHAIDNEME)
- 65. GLEND S.A.S.
- 66. GLOBAL ELECTROMECANICA SERVICIOS SABANA CENTRO (GESSC) LTDA.
- 67. HELIOS TECHNOLOGY & INNOVATION S.A.S.
- 68. ICL LTDA.
- 69. IMAL S.A. (GRUPO CHAIDNEME)
- 70. INAGROMECANICA
- 71. INALTRA LTDA.

- 72. INCOLBEST S.A. (GRUPO CHAIDNEME)
- 73. INCOPAV S.A.
- 74. INDUMIL
- 75. INDUPROF
- 76. INDUSTRIA TÉCNICA CARVAJAL "INTECAR LTDA."
- 77. INDUSTRIAS AXIAL S.A.S.
- 78. INDUSTRIAS CENO
- 79. INDUSTRIAS DEL PACIFICO S.A.S.
- 80. INDUSTRIAS HRV LTDA.
- 81. INDUSTRIAS JB LTDA.
- 82. INDUSTRIAS JILA LTDA.
- 83. INDUSTRIAS LAVCO LTDA.
- 84. INDUSTRIAS MAQUINTEC S.A.S.
- 85. INDUSTRIAS METÁLICAS "LOS PINOS" S.A.
- 86. INDUSTRIAS METALICAS J.B. LTDA.
- 87. INDUSTRIAS ZARQUIS LTDA.
- 88. INGENIERIA CNC LTDA.
- 89. INGENIERIA Y DISEÑO NAVAL
- 90. INGENOX S.A.S.
- 91. INMAGRAF INGENIERÌA
- 92. INMEDCO LTDA.
- 93. INMEJOSA LTDA.
- 94. INORCA LTDA. (INDUSTRIAS NORTECAUCANAS)
- 95. INSTATEL COLOMBIA
- 96. INTEGRANDO LTDA.
- 97. INVALCOR LTDA.
- 98. INVERSIONES ALDEMAR S.A. DBA CARROCERIAS JGB
- 99. INVERSIONES IDERNA S.A.
- 100. INVERSIONES REINOSO Y CIA. LTDA.
- 101. IPT COMERCIALIZADORA INTER. S.A.
- 102. KNO INGENIERIA LTDA.
- 103. KREATOR INC
- 104. LAGUNA MORANTE LTDA.
- 105. LAMINACO
- 106. LGD LASER INDUSTRIAL EU
- 107. MAKRON LTDA. INGENIERÍA MECÁNICA Y ELÉCTRICA
- 108. MANUFACTURAS DE ALUMINIO MADEAL S.A. (GRUPO CHAIDNEME)
- 109. MANUFACTURAS DELMYP
- 110. MANUFACTURAS TECNICAS INDUSTRIALES DE COLOMBIA (MTIC) S.A.
- 111. MATROMOL S.A.S. (MECANIZADOS TROQUELES MOLDES)
- 112. MAZDEL PLAZAS RODRIGUEZ S EN C

- 113. MECANICA SISTEMATIZADA S.A.
- 114. MECHANICAL TOOLING LTDA.
- 115. METALBOGOTÁ S.A.
- 116. METALMECÁNICA LUCENA
- 117. METALPLAST LTDA.
- 118. METAZA S.A.
- 119. MIGUEL CABALLERO
- 120. MVM LTDA.
- 121. NSP DE COLOMBIA S.A.
- 122. OWENS ILLINOIS/CENTRO DE MECANIZADOS DEL CAUCA S.A.
- 123. PLASMEGA S.A.
- 124. POLYUPROTEC S.A.
- 125. PRAMEC LTDA. PRODUCTORA DE ACCESORIOS METALMECANICOS
- 126. PREMAC S.A.
- 127. PROALCO S.A.S. (PRODUCTORA DE ALAMBRES COLOMBIANOS)
- 128. PROINDUL LTDA.
- 129. PROVEMEL LTDA. PROVEEDORA METALMECANICA
- 130. PROYMET LTDA.
- 131. REMAT INGENIERIA LTDA.
- 132. SAIT
- 133. SEC SEL/ MANUMETAL
- 134. SERIDME CIA. S. EN C.
- 135. SERVINTEC S.A.
- 136. SIDELVA LIMITADA

- 137. SIME INGENIEROS S.A.
- 138. SINYETEC LTDA.
- 139. SISTEMAS TECNICOS DE MECANIZADO LTDA. (SISTEMEC)
- 140. SPIRODUCTOS S.A.S.
- 141. STECKERL ACEROS
- 142. TALLER IND. CALI LTDA.
- 143. TALLER INDUSTRIAL SUPER
- 144. TALLERES OLAYA LTDA.
- 145. TAMETAL TRANSMISION DE POTENCIA S.A.
- 146. **TAMETCO**
- 147. TECNICA METALMECANICA DEL CARIBE & CIA. LTDA.
- 148. TECNIKA SARAY S.A.
- 149. TECNISERVICIO SUPERIOR
- 150. TECSUD S.A.S.
- 151. TELSAT S.A.S.
- 152. TERMINALES AUTOMOTRICES S.A. -TNK CORPORATION
- 153. THOR S.A.S.
- 154. TRANSEJES S.A.
- 155. TRATAR S.A.
- 156. UMO S.A.
- 157. VALENTINA AUXILIAR CARROCERA S.A. (CARROCERIAS VALENTINA)
- 158. VMA INGENIERIA LTDA.

According to the analysis Epicos conducted, Colombian companies involved in the Metal Processing, Parts & Components Industry are mainly located in Bogota. More specifically there are (73) companies located in the city of Bogota (including Duitama), (32) are located in the city of Cali, (29) are located in the city of Medellin and (8) are located in the city of Cartagena. Additionally, there are some companies (16 in total) dispersed in the cities of Barranquilla (6 companies), Bucaramanga (6 companies), Manizales (2 companies) and Pereira (2 companies).



It is important to point-out that (65) out of (158) (41%) of the metal mechanic companies mapped by Epicos in the Republic of Colombia are certified with some ISO certification, a rather important fact as a number of studies have identified significant financial benefits for organizations certified e.g. to ISO 9001. For example, a 2011 survey from the British Assessment Bureau found that 44% of their certified clients had won new business, as a result of such certification. Thus, it is to the benefit of the Republic of Colombia's metal mechanic industry that several companies are ISO certified. Most of these companies are manufacturers of parts for the automotive industry.

Additionally, there are (19) companies certified with ISO 14001. ISO 14001 is known as a 'generic' standard, meaning that it is applicable to any size and type of organization, product or service, in any sector of activity and can accommodate diverse socio-cultural and geographic conditions. Thus it is cost effective for a foreign customer to choose companies with an ISO 14001 certification as they will be easier to comply with any environmental standards the foreign company may wish to impose.

As was already discussed in previous, there are (18) companies which provide metal mechanic products and services to the Ships, Vessels, Submarines & related equipment category. Corporación de Ciencia y Tecnología para el Desarrollo de la Industria Naval, Marítima y Fluvial (COTECMAR) is the most important company in this category. COTECMAR is a Corporation of science and technology oriented towards design, construction, maintenance and repair of naval ships and artefacts. COTECMAR, based on the university-company relationship, gives priority to the investigation, development, application of new technology and the best business practices of the Colombian Navy and of national and international markets, so as to contribute to the technological, social and economic development of the country (for further information about COTECMAR please <u>Click Here</u>).

In addition to COTECMAR, one of the main reasons why the Colombian Ships, Vessels, Submarines & related equipment industry developed a range of companies that provide related services and products is that it strives to meet the operational needs of the Colombian Armed Forces which are largely influenced by the geographical diversity of the country. It is important to note that the Republic of Colombia has a widespread coastline of 3,208 km (Caribbean Sea 1,760 km and Pacific Ocean 1,448 km).

Below, the list of Colombian companies, part of the Epicos National Industry Support Project, that provide related services/products to the Ships, Vessels, Submarines & related equipment Industries, is provided:

- 1. AB INFLATABLES (AB MARINE GROUP)
- 2. AEROSOLUTIONS LTDA
- 3. ASTILLERO GUSTAVO MARQUEZ Y CIA -DOBLACO
- 4. COLOMBIANA DE MECANIZADOS COLMECAN S.A.S.
- 5. CORENAL
- CORPORACIÓN DE CIENCIA Y TECNOLOGÍA PARA EL DESARROLLO DE LA INDUSTRIA NAVAL, MARÍTIMA Y FLUVIAL (COTECMAR)
- 7. DINACOL LTDA.

- 8. DURABOTES S.A.S.
- 9. EYCAL METALMECANICA S.A.
- 10. FIRPOL S.A.
- 11. FIS LTDA. (FERRETERIA TALLER IGNACIO SIERRA)
- 12. INGENIERIA Y DISEÑO NAVAL
- 13. LAGUNA MORANTE LTDA.
- 14. MIGUEL CABALLERO
- 15. SERIDME CIA. S. EN C.
- 16. STECKERL ACEROS
- 17. TAMETCO
- 18. TECSUD S.A.S.

The above companies are equally dispersed geographically throughout the country. More specifically there are (7) companies located in the city of Cartagena, which is a centre of economic activity in the Caribbean, (2) in the city of Cali, (4) in the city of Bogota, (3) in the city of Barranquilla and (2) in the city of Medellin.



According to the analysis Epicos conducted, (12) Colombian companies provide metal mechanical services and products for the Aircraft, Helicopter, UAV and Spacecraft category. Furthermore, (2) of companies, namely THOR S.A. and EVOTEC S.A.S. manufacture metal mechanical specialized parts for the aerospace industry. THOR S.A. is specialized in the design, development and production of a wide range of metal components for various industry sectors. In January 2011, THOR S.A. was selected as the recipient of technology transfer and training in the manufacture of landing gear components for the EMB 312 (T27 Tucano), as the company met the requirements set by GEOMETRA - BTE. GEOMETRA - BTE is a Brazilian company which develops and manufactures the landing gear for the EMB 312 (T27 Tucano). In addition, CORPORACIÓN DE LA INDUSTRIA AERONÁUTICA COLOMBIANA (CIAC) amongst other activities develops and manufactures the T-90 Calima, a basic trainer aircraft designed and built for the Republic of Colombia's Air Force.

Below, the list of Colombian companies, part of the Epicos National Industry Support Project, that provide related services/products to the Aircraft, Helicopter, UAV and Spacecraft category, is provided:

- 1. AEROSOLUTIONS LTDA
- 2. ANTARES IAC (INVERSIONES ANTARES LTDA)
- CORPORACIÓN DE LA INDUSTRIA AERONÁUTICA COLOMBIANA S.A.
 CIAC
- 4. ESLYM LTDA

- 5. EVOTEC S.A.S.
- 6. INDUSTRIAS HRV LTDA
- 7. INMEDCO LTDA
- 8. MIGUEL CABALLERO
- 9. PLASMEGA S.A.
- 10. TAMETAL TRANSMISION DE POTENCIA S.A.

11. TELSAT S.A.S.

12. THOR S.A.S.

Most of these companies six (6) are located in Bogota. From the remaining companies (4) are located in Medellin, (1) in Cali and (1) in Bucaramanga.



From the (158) companies categorized under the industry sector of metal-mechanics, (50) are providing services and products for the automotive industry. Actually, the Republic of Colombia has a highly established automotive industry, as it is the fourth producer of vehicles in Latin America. The automotive industry in the Republic of Colombia covers the activity of assembly (light vehicles, trucks, buses and motorcycles) and the manufacture of parts and pieces used in the assembly by OEMs. This activity also involves the inputs of suppliers of other industries such as metallurgical, petrochemical (plastic and rubbers) and textiles. In 2010, the Colombian automotive sector showcased rather impressive figures in terms of sales, production and level of employment. Sales had a record year in new marketing units (253.869 new units produced and sold) demonstrating an increase of 37,1% with regard to the previous year (185.129 units). The total amount of sales reached 4.820 million US dollars, a figure equivalent to 1,7 % of the GDP of the country.

The Colombian companies providing metal-mechanic services/products to the automotive industry are:

- 1. ARMOR INTERNATIONAL S.A.
- 2. BLINDAJES ISBI LTDA
- 3. BLINDEX S.A.
- 4. BONEM S.A. (GRUPO CHAIDNEME)
- 5. CARROCERIAS ANDINA LTDA
- 6. CARROCERIAS EL SOL S.A.S.
- 7. CARROCERIAS ESPECIALES LTDA.
- 8. CENTIGON COLOMBIA
- 9. CODINTER
- 10. COLAUTO
- 11. CONSTRUMECAM
- 12. DELIDIA CORPORATION LTDA.
- 13. DYNACAD
- 14. EUROPESADOS S.A.S.

- 15. EYCAL METALMECANICA S.A.
- 16. FANALCA AUTOPARTES S.A.
- 17. FANAUTO S.A.S.
- 18. FORJADOS S.A.
- 19. FRACO S.A
- 20. FRANCOLOMBIANA DE CONSTRUCCION LTDA
- 21. FUNDICOM S.A.
- 22. GABRIEL DE COLOMBIA S.A. (GRUPO CHAIDNEME)
- 23. IMAL S.A. (GRUPO CHAIDNEME)
- 24. INALTRA LTDA.
- 25. INCOLBEST S.A. (GRUPO CHAIDNEME)
- 26. INDUPROF
- 27. INDUSTRIA TÉCNICA CARVAJAL "INTECAR LTDA."
- 28. INDUSTRIAS AXIAL S.A.S.
- 29. INDUSTRIAS JB LTDA.
- 30. INMEJOSA LTDA.
- 31. INORCA LTDA (INDUSTRIAS NORTECAUCANAS)
- 32. INVALCOR LTDA
- 33. INVERSIONES ALDEMAR S.A. DBA CARROCERIAS JGB

- 34. INVERSIONES REINOSO Y CIA. LTDA.
- 35. LAMINACO
- 36. LGD LASER INDUSTRIAL EU
- 37. MANUFACTURAS DE ALUMINIO MADEAL S.A. (GRUPO CHAIDNEME)
- 38. MATROMOL S.A.S. (MECANIZADOS TROQUELES MOLDES)
- 39. METALBOGOTÁ S.A.
- 40. METALPLAST LTDA
- 41. MVM LTDA
- 42. PROVEMEL LTDA PROVEEDORA METALMECANICA
- 43. SEC SEL/ MANUMETAL
- 44. SERVINTEC S.A.
- 45. TECNICA METALMECANICA DEL CARIBE & CIA. LTDA.
- 46. TECNISERVICIO SUPERIOR
- 47. TERMINALES AUTOMOTRICES S.A. -TNK CORPORATION
- 48. TRANSEJES S.A.
- 49. UMO S.A.
- 50. VALENTINA AUXILIAR CARROCERA S.A. (CARROCERIAS VALENTINA)

Most of these companies (29) are located in Bogota. From the remaining companies there are (7) companies located in Medellin, (8) in Cali, (3) in Bucaramanga, (1) in Cartagena, (1) in Manizales and (1) in Barranquilla.



The production of automotive parts in the Republic of Colombia includes the following productive activities: smelting, melting, mechanizing, upholstery, electrics, rubber and glass,

among others. The main sub-systems Colombian companies produce as a result are the following:

✓ Metal Mechanic Parts

✓ Wheels/ Wheels Rims

- ✓ Air Conditioning
- ✓ Seats and Interior Trim
- ✓ Clutch
- ✓ Hoses

✓ Tires

✓ Steering Systems
✓ Electric Systems

✓ Motor Parts

- ✓ Joints and Retainers
- ✓ Exhaust Systems
 - ✓ Brake Systems

- ✓ Suspension Systems
- ✓ Transmission Systems
- ✓ Laminated and Hardened Safety Windows
- ✓ Accessories

One example of a metal mechanic company providing services/products to the Automotive Industry, is the Chaid Neme Group, the Industrial Division of which manufactures amongst others metallic auto parts (e.g. suspensions, wheel rims, etc.), plastic and rubber components, as well as agricultural machinery.

In following, three (3) interviews from a selection of Colombian metal processing companies can be found. The interviews actually offer an insight to only a small sample of the wide ranging capabilities of the Colombian companies active in the metal processing industry.

Interview with Mr. Jorge Felipe Gonzalez, General Manager of THOR S.A.





Mr. Jorge Felipe Gonzalez, General Manager at THOR S.A. gave an exclusive interview to Epicos, regarding the position of the company in the national and international markets. Amongst others

he stated that: "in THOR quality is not negotiable, we work to MIL standards and we are certified per ISO 9001. We have top quality equipment and personnel and a very strong engineering group including Aeronautical, Electronics, Mechanical and Production Engineers. We work with certified and trust worthy material suppliers".

1. Could you please describe the current position of THOR S.A. in the national and international market?

THOR is the leading private company in the Republic of Colombia in the development and manufacturing of components for the Defence industry. THOR directs its activities towards different sectors, by means of "Strategic Units" which as of today are: THOR Defence, THOR Aeronautics, THOR Naval, THOR Medical and THOR Advanced Electronics. We have supplied our armed forces with replacement parts for their armament and transport equipment, including maintenance equipment. We have manufactured parts for helicopters, airplanes, patrol vessels, river boats and submarines, making us the first company in the country to manufacture such complex parts with complete reliability. We also manufacture parts for the medical sector, trauma treatment and prosthesis components.

As for the international market, we are a young company that has just started its international relations; we are a top supplier of parts and solutions for the Policía Federal de Mexico. We have also sold some parts to the Dominican Republic and Argentina.

2. Could you please describe briefly the history of the company?

THOR was created by 3 young engineers, 9 years ago, but has been in full operation for 6 years. We started very small; working from the living room of an apartment, after we got our first contract and with the



aid of a Sab Miller program we bought our first CNC machine and moved to a 100 m^2 warehouse. Since then we've experienced a steady growth and today we have 5 CNCs and operate a 750 m^2 facility.

It has been a nice story of dedication, hard work and continuous growth and success.

3. Could you please name the main customers of THOR S.A.?

Our main customers are the Colombian Air Force, Navy and soon the Army, the Mexican Police and local medical parts distributors.

4. What are the main products that THOR S.A. manufactures?

THOR Defence: Gun Mounts, gun components, gun maintenance equipment, rocket launchers and RCWS (Remote Controlled Weapons System).

THOR Aeronautical: Structural components for Airplanes and Helicopters, maintenance tools and equipment.

THOR Naval: Repair and manufacture of submarine (class 209) components. Engineering solutions and manufacture of systems for the OPV (Offshore Patrol Vessel) and Frigate boats. Gun Mounts and bullet proof solutions for river boats.

THOR Medical: Trauma components (Ti and SS), prosthesis for lower members and tailor made Ti prosthesis especially for jaw replacement.

THOR Advanced Electronics: We work with a state-of-the-art Israeli company (Controp) in the field of advanced optronic systems; we supply systems for boats, coastal and city surveillance.



5. What are the main technological advantages of the company's products?

In THOR, quality is not negotiable, we work to MIL standards and we are certified to ISO 9001. We have top quality equipment and personnel and a very strong engineering group including Aeronautical, Electronics, Mechanical and Production Engineers. We work with certified and trust worthy material suppliers.

6. Is the company currently investing in a new technology?

THOR constantly invests in new technologies; we steadily invest in new and more advanced CNC machinery, 3D printing for prototypes and commercial purposes, top-of-the-line CAD-CAM software and are looking to purchase some of the most advanced Plasma Coating technology available.

We believe the only way to be an international player with a future, is to keep on reinvesting in the company.

7. What are the next steps and priorities of THOR S.A.?

Each of our "Strategic Units" has to find a world class strategic partner, for example, THOR Aeronautical has to turn from being a parts manufacturer for the Colombian Air Force to a supplier of parts for major OEMs of the sector, such as EADS, Raytheon or similar.

We have to shift from being a leading company in the development of parts for the local armed forces, to sell to bigger markets with larger volumes where we will be very competitive with top quality and better prices.

8. Is there a specific country or region that THOR S.A. is planning to expand to?

We look especially towards North America and Europe, but in the meanwhile our focus is on South and Central America. In the near future we might set up operations in Mexico for THOR Defence and in Peru for THOR Naval.

For Further Information Contact:

Jorge Felipe Gonzalez General Manager <u>contact@thorint.com</u> Tel. +57 4 444 8467 Fax. +57 4 444 8467 Ext. 8 CL 10 # 52A 18, Medellín, Antioquia, Republic of Colombia Interview with Lina María Mesa, Mechanical Engineer at the company INDUSTRIAS HRV LTDA.





Mrs. Lina María Mesa,

Mechanical Engineer at INDUSTRIAS HRV LTDA. gave an exclusive interview to Epicos, regarding the position of the company in the national and international markets. Amongst others she stated that: "HRV Industries is continuously concerned in investing on equipment for manufacturing and quality control. Investments

are made to improve the time and quality of production. In this way we have acquired manufacturing machines, machines for surface coatings and finishes and instruments for quality control."

1. Could you please describe the current position of INDUSTRIAS HRV LTDA. in the national and international market?

HRV Industries is a company with 27 years of experience in developing and manufacturing aviation parts. Our company holds an important place in the Colombian Aeronautical field as a pioneer in the export of Aeronautical Tools to other countries like France and the United States.

2. Could you please describe briefly the history of the company?



HRV Industries was founded in 1983 on the basis of extensive knowledge of materials and the manufacturing of mechanical equipment in general. Its production capacity was always rising due to its reputation in the field thanks to the high quality of the produced parts.

In 1988, we started manufacturing tools and parts for the aviation industry of the Republic of Colombia and in 2001 we began exporting Aeronautical tools to France and the United States of America. From then on, half of the production capacity of the company is focused on the aviation industry.

Actually, the company has an ISO 9001:2008 certification in engineering services as far as "Design and Development, Investigation and Manufacture of Equipment and Spare Parts."

3. Could you please name the main customers of INDUSTRIAS HRV LTDA.?

HRV industries currently serve customers such as Dedienne France, shipping an average of 10 assemblies per month to them. We manufacture parts for:

- Dyncorp International
- Colombian Air Force (FAC)
- Satena (Airline Carrier)
- Antioqueña de Aviación (ADA) (Airline Carrier)
- Viva Colombia (Airline Carrier)

- Industrial Aeronáutica (Indaer)
- American Embassy in the Republic of Colombia
- Flight Deck Specialist
- Corporación de la Industria Aeronaútica Colombiana (CIAC).

In addition, we produce equipment for the laboratories of some Colombian Universities located in Medellin and parts for drilling for the Mining Industry of the Republic of Colombia.

4. What are the main products that INDUSTRIAS HRV LTDA. manufactures?

- Parts for the Aeronautical Industry according to client specifications or samples; for example:
 - o Ground Spoiler supports for Dornier 328 Airplanes.
 - Central Frames and door support for Dornier 328 Airplanes.
 - Fittings for Schweizer Airplanes.
 - Tailskid springs for Schweizer Airplanes.
 - Shafts for landing gear for Schweizer Airplanes.
 - Principal beams for Mentor T-34.
 - Fittings for wings for Mentor T-34.
 - Hinges for pilot doors for Cessna Caraván.
 - Angles and reinforcement structural elements for UH-60 Helicopter.
 - Fittings for Alkan Supports for UH-60 Helicopter.
- Aeronautical tools for maintenance provision.
- Ground (Support) Equipment for Airplanes and Helicopters.

5. What are the main technological advantages of the company's products?

- An engineering department, very mature and with a high capability to carry-out engineering design.
- Special capability to select and use the most appropriate material in each case.
- An industrial experience of 27 years.
- Personnel with extensive experience and numerous skills.
- A detailed knowledge of the processes of manufacturing.
- High quality level outcome.
- Considerable experience in producing parts for the export market.
- Excellent reputation in the country and abroad.
- Excellent relationship with the Universities of the region.
- Use and application of modeling software.

6. Is the company currently investing in a new technology?

HRV Industries is continuously concerned in investing on equipment for manufacturing and quality control. Investments are made to improve the time and quality of production. In this way we have acquired manufacturing machines, machines for surface coatings and finishes and instruments for quality control.



7. What are the next steps and priorities of INDUSTRIAS HRV LTDA.?

- Expand on the current and open up new international markets.
- Search alliances with similar companies to build upon outside the Republic of Colombia.

8. Is there a specific country or region that INDUSTRIAS HRV LTDA. is planning to expand to?

There are many ageing airplanes around the world which require parts of complex machining processes. HRV Industries has shown competence and high quality in producing such aeronautical parts, at competitive prices.

For Further Information Contact:

Lina María Mesa Mechanical Engineer Industrias HRV hrv@une.net.co Tel: +57 4 235 3056 Cra 65B N. 26-15, Medellin, Antioquia, Republic of Colombia Interview with Mr. Andres Bernal, Assistant Manager of the company TRATAMIENTOS TERMICOS – TRATAR S.A.



Mr. Andres Bernal, Assistant Manager of the company TRATAMIENTOS TERMICOS -TRATAR S.A. gave an exclusive interview to Epicos, regarding the position of the company in the national and international markets.

Cpicos.com

Amongst others he stated that: "TRATAR is a knowledge based company that specializes in providing services within the metallurgy field. TRATAR is strongly focused on selling, not products, but solutions, to customers that know and understand the importance of well selected materials and heat treatment specs for their steel or cast components."

1. Could you please describe the current position of TRATAR S.A. in the national and international market?

TRATAR is the most important commercial "heat treater" in the Republic of Colombia, it is the only one with plants in Medellin, Bogota and Cali and its share is around 55% of the total market. TRATAR also entered the Peruvian market with an operation in Lima, Peru and is currently exploring other possibilities in different Latin American markets/countries.

2. Could you please describe briefly the history of the company?

The company was founded in the city of Medellin in 1983. Its goal was to provide heat treatment services to all brands of steel distributed in the country at that time. Up to that point, each steel supplier had its own heat treatment operation using cyanide salt baths, therefore the big innovation was to set up an operation which used more advanced and cleaner technology, based on controlled atmospheres. The birth of TRATAR made the smaller and more 'contaminating' companies close down their plants.

Development in the subsequent years was based on two pillars: Permanent technological development and presence in new geographical markets. From the technological point of view, several important steps were taken as the acquisition of fluidized bed furnaces (1990), rotary retort furnaces (1997), development of an electroplating shop for heat treated parts (2003), and the development of plasma nitriding technology (2010). From the market point of view, several plants were built. A heat treatment plant (1997) and an



electroplating shop (2003) in Bogota, a heat treatment plant in Cali (2005), and a heat treatment plant in Lima, Peru (2009).

3. Could you please name the main customers of TRATAR S.A.?

Heat treatment is a transverse service provided to all the manufacturing companies that produce steel parts and to others, that even though do not produce steel parts, use steel to manufacture their tools like moulds, knives, etc. Maintenance of any kind of machine needs to have parts made out of steel which at the end need heat treatment. Therefore all type of

manufacturing industries are a potential customer of our services; highlighting the ones exposing the largest volumes, these include the automotive, plastics, white goods, agricultural tools, OEMs, etc. industries. In less volume but with higher technological demands, there is also the aerospace industry.

4. What are the main services and products of TRATAR S.A.?

TRATAR mainly provides heat treatment services to the industry. As a second and third line of business, TRATAR manufactures customized machine components and provides research and development field services, within the of metallurgy. These two domains are the ones that demonstrate the largest sales increase.

In the heat treatment area, we provide all types of conventional heat treatment, like hardening, carburizing, annealing,



tempering, stress relieving, cryogenic treatment, etc. Recently we introduced a plasma nitriding and ferritic nitro-carburizing service to the national market.

Some of the tools and machine components TRATAR manufactures today are knives for the food industry, bearings for the oil drilling industry, castings for the mining industry, etc.

5. What are the main technological advantages of the company's products/services?

TRATAR is a knowledge based company that specializes in providing services within the metallurgy field. TRATAR is strongly focused on selling, not products, but solutions, to customers that know and understand the importance of well selected materials and heat treatment specs for their steel or cast components.

TRATAR is also proud to say that it uses the most advanced technology in heat treatment in the region.

6. Is the company currently investing in a new technology?

TRATAR just finished investing in plasma nitriding technology which is becoming more and more important for the aerospace industry. Low distortion treatment for steel components to be used in the bearings, flaps etc. makes TRATAR an ideal partner for any company interested in developing steel components for aircraft.

7. What are the next steps and priorities of TRATAR S.A.?

TRATAR is always looking for the right timing to get into new technology projects. We will definitely move towards the surface technology area and will try to find new Latin American markets to expand our operations.

8. Is there a specific country or region that TRATAR S.A. is planning to expand to?

I cannot specify any particular ones at the moment, although there are several markets (as described previously) that we are strongly looking into.

For Further Information Contact:

Andres Bernal Assistant Manager <u>andresbernal@tratar.com.co</u> Tel. +57 4 265 8382 Fax. +57 4 265 7567 Calle 29C # 53-23, Medellin, Republic of Colombia

Conclusions and Highlights of the Republic of Colombia's Metal Processing, Parts & Components Industry



The metal-mechanics sector is quite diverse since it is formed of companies devoted to the 'light' metal industry, which typically manufacture precision parts, valves, bearings, etc, and manufacturing companies devoted to providing large infrastructure metallic works such as agricultural equipment, cranes, pipelines and metal structures. In recent years, the Colombian metal-mechanics industry, by applying state-of-the-art technology and professional and technical training have managed to develop and manufacture products which comply with international standards and furthermore to excel in some particular industrial sectors, such as that of the automotive domain.

More specifically, in the defence sector, Colombian metal processing companies provide several products. For example INDUMIL - INDUSTRIA MILITAR is the most important company with related metal-mechanic capabilities in the manufacturing of weapons and ammunitions. INDUMIL - INDUSTRIA MILITAR manufactures, imports and markets sports weapons, personal defence weapons, ammunition, explosives, aerial weaponry, as well as the raw materials necessary for their manufacturing. Additionally they produce, import and market raw materials for industrial use and for the elaboration of explosives.

From the interviews presented above, important conclusions can be drawn regarding the metal processing industry of the Republic of Colombia. According to Mr. Jorge Felipe Gonzalez, General Manager of THOR S.A., the company is working to MIL standards and they are also certified per ISO 9001, a fact that highlights the commitment of the local industry to providing high quality services/products. Additionally, Mrs. Lina María Mesa, Mechanical Engineer at the company INDUSTRIAS HRV LTDA, emphasized on the policy of the company which is to invest in equipment for manufacturing that improve the time and quality of production. This indicates the expressed interest of the country's metal-mechanics industry to improve on production automation, costs and timing. Finally, Mr. Andres Bernal, Assistant Manager of the company TRATAMIENTOS TERMICOS – TRATAR S.A. indicated that the company is strongly focused on selling, not products, but rather 'complete' solutions, fully satisfying customer requirements, thus highlighting the capability of the local industry for providing integrated turn-key solutions.

In following, 3 further interviews of some additional prominent Colombian metal-mechanics companies are provided, namely of:

- 1. EYCAL METALMECANICA LTDA.
- 2. PROVEMEL PROVEEDORA METALMECANICA LTDA.
- 3. DANA TRANSEJES COLOMBIA S.A.

Interview with Mr. Alexander Macias, Manager of the company EYCAL METALMECANICA LTDA.



Mr. Alexander Macias, Manager of EYCAL METALMECANICA LTDA. gave an exclusive interview to Epicos, regarding the position of the company in the national and international

markets. Amongst others he stated that: "EYCAL METALMECANICA LTDA. is a company that is growing as a supplier of the industrial and mining sectors. Today the company is keen to expand to the rest of the Republic of Colombia and South America. We are also working on acquiring quality certification and on augmenting the loyalty of our customers."

1. Could you please describe the current position of EYCAL METALMECANICA LTDA. in the national and international market?

EYCAL METALMECANICA LTDA. is a company recognized across the Colombian Atlantic Coast for the implementation of high quality engineering projects, mainly in the mining sector. We design, manufacture and assemble mountings by applying our expertise in the metalmechanics industry. Also, our firm has carried out large scale maintenance projects in the chemical and energy industry. Currently, our customers confide in us as we offer support and assistance after completing the provision of our services or the delivery of our work, which is the major added value that we offer.

Could you please describe briefly the history of the company? 2.



EYCAL METALMECANICA LTDA. was founded on April 26, 1999 as a limited company. The initiative for the foundation of the company came from the engineers Alexander Macias and Carlos Oyaga. They identified the need for a company providing solutions in the metal-mechanics industry, in the city of Barranguilla.

Thus, they literally started knocking on doors and in this way they began to win customers interested in the design and manufacture of machined parts, which was the main activity of the company in its first steps. Over the years, EYCAL METALMECANICA LTDA. grew and positioned itself in the market and its various segments, specializing mostly in the

mining sector, covering little by little, all of the Colombian Atlantic Coast.

This growth has been substantiated by the opening of a facility in La Jagua de Ibirico, in the mining area of the region of Cesar, through which we provide opportune services to one of our major customers.

Moreover, at present, EYCAL METALMECANICA LTDA. is part of a select group of suppliers for the major mines operating in the country, with projects including installation, maintenance and the provision of personnel, without neglecting the important projects managed within the city of Barranquilla.

3. Could you please name the main customers of EYCAL METALMECANICA LTDA.?

Our prime customers are:

- ✓ Gecelca S.A.,
- ✓ Carbones del Cerrejón,
- ✓ Carbones de la Jagua,
- ✓ Drummond Ltda.,
- ✓ Prodeco S.A.,
- ✓ Nalco de Colombia,

- ✓ Empaques Transparentes,
- ✓ Praco Didacol S.A.,
- ✓ Bavaria S.A.,
- ✓ Vale,
- ✓ Tecnoglass S.A.

4. What are the main products that EYCAL METALMECANICA LTDA. manufactures?

EYCAL METALMECANICA LTDA. manufactures machined parts according to the needs of our customers, which can provide the associated designs, or the designs can be conceptualized and later drafted by the staff of our company.

The parts that we often manufacture are gears, shafts, cylinders, industrial tanks and all kinds of metal structures.



We also provide maintenance services to industrial plants in which we apply all of our metalworking

expertise. This expertise is concentrated in our highly qualified staff, which carries out the work under the guidance of an expert group of engineers.

5. Is the company currently investing in a new technology?



Currently we are developing related projects in the short and medium term with our customers, basing on the fact that the pieces that we manufacture are practically 'customized' for each customer. EYCAL METALMECANICA LTDA. hence is always looking for a form to acquire opportunely the machines and equipment that will provide the best results

in our associated activities and to support the provision and/or the delivery of high quality machined pieces/parts.

Our necessities are changing, since they depend heavily on our customers' needs. Currently we do not have a specific investment project but we are 'open' to evaluate new technologies that will benefit us as far as our market presence.

6. What are the next steps and priorities of EYCAL METALMECANICA LTDA.?

EYCAL METALMECANICA LTDA. is a company that is growing as a supplier of the industrial and mining sectors. Today the company is keen to expand to the rest of the Republic of

Colombia and South America. We are also working on acquiring quality certification and on augmenting the loyalty of our customers.

Additionally, we are looking for new projects and partnerships to ensure the long term sustainability of our company.

For Further Information Contact:

Mr. Alexander Macias E-mail: eycal1@epm.net.co Tel: +57 - 3519086 - 3722221 Mobile: +57 - 313-5154010 Calle 35 No. 36-56, Barranquilla - Republic of Colombia Interview with Mr. Edwin Stick Bernal, Administrative Manager of the company PROVEMEL - PROVEEDORA METALMECANICA LTDA.



rovemel Ltda.

Mr. Edwin Stick Bernal, Administrative Manager of the company PROVEMEL LTDA. gave an exclusive interview to Epicos, regarding the position of the company in the

national and international markets. Amongst others he stated that: "PROVEMEL mainly provides metal processing services and products. Our strength is in machining of parts using CNC technology, while we also carry-out stamping and punching of processed parts."

1. Could you please describe briefly the history of the company?

The metal-mechanic services company, PROVEMEL LTDA. was established on September 3, 1980 in the capital city of Bogota, under the commercial registration number 00147173, as registered in the Chamber of Commerce of Bogota. The company was formed by Mr. Benjamin Bernal Nieto and Mr. Gabriel Mendez Torres. This partnership lasted for 5 years.

Could you please name the main

2.



- INDUMIL INDUSTRIA MILITAR COLOMBIA: Since 1994 we pro
 - INDUMIL INDUSTRIA MILITAR COLOMBIA: Since 1994 we provide machining services for weapons' parts.
 - **FUNDICOM S.A.** (former name Kapitol): Since 1981 we fabricate parts for automotive brake systems.
 - **INCOLBESTOS S.A.:** Since 1985 we fabricate parts for automotive brake systems.
 - **GABRIEL DE COLOMBIA S.A.:** Since 1981 we fabricate parts for automotive shock absorbers.
 - **SERVINTEC S.A.:** Since 1988 we fabricate parts for automotive exhaust and suspension systems.
 - **GROUPE SEB COLOMBIA S.A.:** Since 1997 we fabricate parts for domestic electrical appliances.
 - **ANDINA TRIM S.A.** (former name Mecanismos Automotrices Ltda.): Since 1999 we fabricate parts for automotive seat belts.

3. What are the main products that PROVEMEL LTDA. manufactures?

PROVEMEL mainly provides metal processing services and products. Our strength is in machining of parts using CNC technology, while we also carry-out stamping and punching of processed parts.

4. What are the main technological advantages of the company's products?

Since its establishment, the company has been dedicated to the development of automotive parts and components especially for brake and suspension systems. Later we expanded our production to the manufacture of parts for weapons for the defence industry of the Republic of Colombia.

During this process, we acquired high-tech machinery and therefore we were able to stay in business at a highly competitive level, thanks to the quality of our products and the short delivery times, much to the satisfaction of our customers.

PROVEMEL LTDA. currently relies on the installed production capacity, based on equipment like drilling mills with displays, machining centres, etc. fully available to our clients disposal.

5. Is the company currently investing in new technologies?

No, for the time being the company operates according to market demand. Our design and development projects are fully reliant on our clients; we support them in all possible ways.

6. What are the next steps and priorities for PROVEMEL's business development?

The vision of the company is that by 2016 it will reach the international market, supplying its machining and stamping services.

7. Is there a specific country or region that PROVEMEL is planning to expand to?

Mainly towards the countries with which the Republic of Colombia has FTAs (Free Trade Agreements).

For Further Information Contact:

Edwin Stick Bernal Administrative Manager <u>ebernal@etb.net.co</u> Tel: +57 1 247 4964 Ext 11 Fax: +57 1 220 4350 Cra 28 No 7-64, Bogota, Republic of Colombia Interview with Mr. Carlos Andres Gomez Ardila, Markets & Sales Analyst of the company DANA TRANSEJES COLOMBIA S.A.





Mr. Carlos Andres Gomez Ardila, Markets & Sales Analyst of the company DANA TRANSEJES COLOMBIA S.A. gave an exclusive interview to Epicos, regarding the position of the company in the national and international markets. Amongst others he stated that: "Our products are of the highest quality, endorsed by our parent companies DANA (USA) &

TRANSEJES COLOMBIA

GKN (UK), and approved by our customers so as to be fitted as original equipment, by vehicle assemblers in the Andean Region."

1. Could you please describe the current position of DANA TRANSEJES COLOMBIA S.A. in the national and international market?

DANA TRANSEJES COLOMBIA S.A. is a multinational company engaged in the manufacture of auto parts to meet the needs of the (automotive) vehicle assemblers in the Andean Region.

2. Could you please describe briefly the history of the company?

The company was founded in 1972 and its headquarters are in Bucaramanga, Republic of Colombia. Currently it is one of the most important independent providers of vehicle components in the Andean region, serving the markets of automotive assembly and the associated parts distribution network. The company operates from its locations in Bucaramanga, Bogota and Quito (Ecuador), facilities which are strategically located in order to serve the operations of the assembly plants in Ecuador, Venezuela and the Republic of Colombia, as also the respective market of spare parts.

In the spare parts market the company distributes the components through which it serves Original Equipment Manufacturers (OEMs) and additionally it represents other products manufactured and marketed by DANA Corporation and GKN throughout the world.

3. Could you please name the main customers of DANA TRANSEJES COLOMBIA S.A.?

Our main clients are: GM (General Motors), Renault, Mazda, Ford, Toyota, Mercedes Benz, Chrysler, Fiat and Foton.

4. What are the main products that DANA TRANSEJES COLOMBIA S.A. manufactures?

The main products that the company manufactures are: Axles, Drive-shafts, CV Halfshafts & Modular Systems.



5. What are the main technological advantages of the company's products?

Our products are of the highest quality, endorsed by our parent companies DANA (USA) & GKN (UK), and approved by our customers so as to be fitted as original equipment, by vehicle assemblers in the Andean Region.

6. Is the company currently investing in a new technology?

Technological research is carried out by our parent companies, which are constantly innovating so as to remain the industry's leaders worldwide.

DANA's growth strategy – consistently growing faster than the markets we serve – can be simplified to just a few words: innovate and leverage. It starts with developing new technologies that addresses market-based value drivers.



These drivers span the markets we serve, i.e. light, heavy and off-highway vehicles, and include: Fuel Efficiency, Emissions Control, Electric & Hybrid-Electric Solutions, Cost of ownership, Regionalization, Software & Systems Integration.

7. What are the next steps and priorities of DANA TRANSEJES COLOMBIA S.A.?

Our top priority is to establish ourselves as one of the leading providers of auto parts in the Andean Region.

8. Is there a specific country or region that DANA TRANSEJES COLOMBIA S.A. is planning to expand to?

Currently plans are being developed so as to benefit from the FTAs (Free Trade Agreements) signed by the national government, allowing the export of components to Mexico and the USA. Additionally, we aim to be a Parts Distribution Centre for the Andean Region and Chile.

For Further Information Contact:

Carlos Andres Gomez Ardila DANA TRANSEJES COLOMBIA S.A. Markets & Sales Analyst andres.gomez@dana.com Tel. +57-7-6468288 Ext 4119 Cel. +57-318-2826318 Fax. +57-7-6469172

Epicos Newsroom



Apart from the section focused on Colombia's Metal Processing, Parts & Components Industry, EPICOS' newsletter also provides a section with top international news supplied by worldwide acknowledged news' providers. Through this section EPICOS announces the latest industrial developments for a large variety of high technology industries in the form of articles, videos, press-releases, electronic newspapers, etc.

Airbus predicts 29,000 new planes needed by 2032

Airbus predicts that the world will need more than 29,000 new commercial planes over the next 20 years to respond to higher traffic and replace older models, the European planemaker said Tuesday.

Delivering its 20-year outlook, Airbus said air travel through 2032 will be fuelled by traffic to and from emerging markets such as Brazil, China and India.

To meet this challenge, Airbus and its rivals -- notably US giant Boeing -- will need to produce thousands more planes, the bulk of which will be single-aisle passenger carriers.

"As aviation becomes increasingly accessible in all parts of the world, future journeys will increasingly be made by air particularly to and from emerging markets," Airbus said in its Global Market Forecast, which it produces every year.

"Air traffic will grow at 4.7 percent annually requiring over 29,220 new passenger and freighter aircraft valued at nearly US\$4.4 trillion (3.3 trillion euros)."

Airbus said almost all the new required planes, about 28,350, would be passenger aircraft valued at \$4.1 trillion.

It added that by 2032, Asia-Pacific would lead the world in air traffic, overtaking Europe and North America.

"Today on average, a fifth of the population of the emerging markets take a flight annually and by 2032, this will swell to two thirds," said John Leahy, chief operating officer at Airbus.

"The attraction of air travel means that passenger numbers will more than double from today's 2.9 billion, to 6.7 billion by 2032, clearly demonstrating aviation's essential role in economic growth," he added in the report.

Last year, Airbus had predicted that about 28,200 passenger and cargo aircraft would be sold by the sector between 2012 and 2031.

Source: 2013 AFP, Agence France-Presse (AFP)

Airline industry calls for CO2 emissions plan

The airline industry's mouthpiece called Monday for uniform global measures by 2020 to curb all aircrafts' carbon emissions, warning that a patchwork of competing proposals could emerge otherwise.

And if that happens, it could lead to a proliferation of trade wars, said International Air Transport Association general manager Tony Tyler said at a meeting of the international industry trade group of airlines.

Tyler said he remains "optimistic" that IATA member states will come together on a plan.

"We think that a global mandatory carbon offsetting scheme would the simplest, easiest in the end to implement," he said.

"We have seven years to do it," he added. "It's achievable."

But if IATA member nations fail to reach a consensus on what a global airline carbon tax might look like, he warned, "We could well see a proliferation of regional schemes of taxes, charges, different ways of penalizing the industry.

"This could lead to overlapping, duplicating, sometimes conflicting schemes under which we may be paying twice for the same emission."

Several nations have already balked at a global emissions scheme for airlines, including the United States and India.

Late last year, after running into a storm of criticism, the European Union suspended its CO2 Emissions Trading Scheme (ETS) for intercontinental flights for 2013, saying it wanted to give all sides more time to reach a global accord.

Under the ETS, airlines flying in EU airspace were required to buy pollution credits to cover 15 percent of their CO2 emissions for the entire flight, wherever it originated.

A European source said earlier this month that the EU is ready to compromise over its tax if opponents, led by the United States and China, apply a similar levy by 2016.

Source: 2013 AFP, Agence France-Presse (AFP)

EU urges global deal on airline pollution

The EU on Tuesday urged nations to accept a compromise on plans to curb airline carbon emissions at a key UN conference, though resistance to striking an overall deal remains fierce.

"We believe a solution is now in sight," said the spokeswoman for EU Transport Commissioner Siim Kallas.

Kallas was set to make a plea for an EU-led pollution-cutting scheme later Wednesday at the International Civil Aviation Organisation (ICAO) in Montreal, the UN agency that sets global aviation standards.

"A truly global deal is long overdue and the world justifiably expects an agreement," the spokeswoman said.

But several nations -- including the United States, India and China -- have balked at a global emissions scheme for airlines and fought fiercely against a 2012 plan launched by Brussels that threatened to tip into a trade war.

Under the EU's ill-fated arrangement, airlines flying in EU airspace were required to buy pollution credits to cover 15 percent of their CO2 emissions for the entire flight, wherever it originated.

But 26 of the ICAO's 36 members opposed the move, saying the levy violated international law.

At the time, plane maker Airbus, plus half a dozen major European airlines, warned that the tax could cost them billions of dollars in lost orders and business and lead to the loss of the thousands of jobs.

Faced with the storm of criticism, last year the EU suspended its CO2 Emissions Trading Scheme (ETS) for intercontinental flights, saying it wanted to give all sides more time to reach a global accord.

In suspending its programme, the Commission on Tuesday said it had done its part to "avoid a trade war" and that it was now up to other countries to do their part.

A European source said earlier this month that the EU is ready to compromise over its tax if opponents, led by the United States and China, apply a similar levy by 2016.

In the new offer, airlines would be subject to the EU tax only for the portion of flights that pass through European airspace.

In the runup to the conference, on Monday the International Air Transport Association warned that a piecemeal approach to battling aircraft carbon emissions could lead to trade feuds.

But IATA general manager Tony Tyler said he was "optimistic" that countries will come together on a plan.

Source: 2013 AFP, Agence France-Presse (AFP)

Army conscription dies out in Europe

Swiss voters on Sunday rejected plans to axe compulsory military service, but the practice has become increasingly rare in Europe since the Cold War ended.

In place since the 19th century in most European countries, conscription armies have gradually been replaced by professional forces since the 1960s.

In the region, Norway, Finland, Denmark, Estonia, Austria, Greece and Cyprus are the only other countries to have kept their system of conscription.

Led by Britain and Luxembourg in the 1960s and followed in the 1990s and 2000s by nations including Belgium, France, Spain, Portugal, Italy, Poland and Germany, successive European countries have abandoned the call-up.

When it comes to those that maintain conscription, Norway has gone against the tide and is set to extend it to women, in line with a decision by parliament voted last June.

This measure, passed in the name of equality between the sexes and expected to enter into force in 2015, is easy to exchange for civilian service.

In Finland, military service is compulsory for stints of between six and 12 months. Civilian service, which is available for conscientious objectors, is not encouraged as it is twice as long as military service.

In Denmark, military service is still in theory obligatory, but out of nearly 5,000 people in service in 2012, 95.8 percent were volunteers, with the remaining 4.2 percent being drawn out of a hat.

Estonia maintains obligatory military service for a period of eight to 11 months.

In Austria, citizens overwhelmingly voted by 59.8 percent in January to maintain conscription. Some 22,000 every year carry out six months of military service. Austrians who do not want to do military service can do nine months of civilian service.

In Cyprus and Greece conscription has also been maintained, while its duration has been progressively been reduced to nine to 12 months.

Sunday's referendum in Switzerland marked the latest attempt by anti-military campaigners to use the Alpine country's system of direct democracy to scrap conscription, but 73 percent backed the status quo in Sunday's referendum.

Source: 2013 AFP, Agence France-Presse (AFP)

Airlines profit outlook downgraded

The airline industry will earn a bit less than expected this year as fuel costs soar, emerging markets slow and the number of cargo shipments stagnate, the IATA said Monday.

The International Air Transport Association (IATA) revised its global outlook downwards to \$11.7 billion in earnings on revenues of \$708 billion as the sector's growth slowed below its previous projection of \$12.7 billion. The figure is up from a revised \$7.4 billion net profit in 2012.

However, the agency also said airlines are poised for a banner year in 2014, which is forecast to be the industry's second strongest so far this century.

"Overall, the story is largely positive," said IATA's director general Tony Tyler. "Profitability continues on an improving trajectory. But we have run into a few speed bumps. Cargo growth has not materialized. Emerging markets have slowed. And the oil price spike has had a dampening effect."

Tyler pointed to a doubling of jet fuel prices in recent years, but said higher costs were absorbed through industry consolidation and joint ventures, and few new entrants in the sector due to tight financing meant less competition.

Airline growth has slowed in India, Brazil and to some extent China, while the long-haul market between North and South America continued to grow, according to the IATA.

Next year is expected to be particularly strong for North America as the economy improves, it said, while European carriers are projected to see a near doubling of profits to \$3.1 billion.

Asia-Pacific carriers, which are the largest air cargo shippers, have been the most impacted by flat cargo revenues.

Meanwhile, the impact of the Syrian crisis on Mideast commercial air travel has been limited.

Source: 2013 AFP, Agence France-Presse (AFP)