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Info Card ELANBiz: The Costa Rican Aerospace Industry¹

Elaborated by the ELANBiz team in Costa Rica. Last updated 05/24/17

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European companies interested in expanding borders with their high capacity for innovation and technology, can find in Costa Rica's the opportunity to establish links with first level research and development capabilities of companies and technology centres. European companies can make use of the Association Agreement between Europe and Central America (AACUE) for importing parts and providing services as well as taking advantage of fiscal and tax benefits by establishing in free trade zones. Costa Rica has scientific and technological capabilities of the technological centres offering excellent opportunities for establishing partnerships with European companies. The diverse projects in high technology that exist in collaboration with European organizations open opportunities for European companies to collaborate with, as is the agreement with DLR - the German space agency. Topics such as energy exploration are just some of the activities related to the aerospace industry, which is made up of the CRAC cluster.

Description of the sector

The Costa Rican aerospace industry includes companies dedicated to the design, manufacture, marketing and aircraft maintenance (aircraft, helicopters, unmanned aerial vehicles, missiles, etc.), as well as subsectors supporting the aeronautical industry, such as propulsion systems, navigation systems, development of unmanned vehicles, among others.

According to PROCOMER (trade promotion agency), the sector is composed of more than 110 companies that employ 4000 employees and is estimated to export more than \$120 million (2008). Only the aeronautics sector is estimated to export products and services for \$42 million (2012).

¹ The information contained in this sheet is only general. For more detailed information, trade promotion events and actions and possible business contacts, please contact the Member States' Trade Offices, European trade organizations and the bilateral chambers.

The companies that make of the aerospace sectors are grouped by the insertion into the global value chain of the aerospace industries, corresponding to the following activities and examples of companies:

- a. Companies dedicated entirely to the aerospace sector through maintenance services, repair and revision (MRO): Coopesa, Helicorp, Sansaa
- b. Companies that provide services in engineering, research, training on maintenance and aviation, logistics and storage (no-MRO): Astra, Agilis, Mechanica, Avionyx, Ridge Run
- c. Companies manufacturing in metalmechanics, molding, finishing: AKA Precisión, Diez Orlich (DO), FEMA, Fortech, H&S Metalmecánica, Micro Technologies, Olympic Precision, R&R Precision SA, Tech Shop, West Star
- d. Companies manufacturing electrical and electronic components: C&K, Camtronics, Irazú Electronics, L3, Multimix, Sensor Group, Teradyne, Trimpot, Tico

As for the products manufactured, in the aeronautical line, Costa Rica markets materials and small parts that are used to produce larger pieces of aircraft and ships, as well as precision equipment. In the lexicon of the industry's worldwide value chain, these are Tier 3 and Tier 4 categories.

A subsector of these companies is organized as a cluster called Costa Rica Aerospace Cluster (CRAC), made up of 27 companies. The companies of the cluster serve the global aerospace value chain from the Tier 3 and 4 categories and have as a common objective the investment attraction of the Tier 1 and Tier 2 companies, which do not currently exist in the country.

Among the main companies participating in the CRAC is Ad Astra Rocket, chaired by former NASA astronaut Franklin Chang from Costa Rica, a company dedicated to research and development for the aerospace subsector that deserves a special sector described below.

Some reference centers for potential strategic alliances:

- **PRIAS of the National High Technology Center - CENAT**

The PRIAS laboratory develops research, with a multidisciplinary approach, methodological and business innovation, on the monitoring of land use and coverage, analysis of urban growth spots, development of advanced techniques in image



classification, evaluation of changes in marine surfaces, geo-applications in safety and community health, among others. PRIAS has a strategic alliance with DLR - the German space agency, for monitoring and environmental study using the remote sensors of the new Copernicus satellites being deployed by the European space agency ESA. It allows a joint collaboration with various public / private entities for access to images, processes and products. For more information visit the link:

http://www.cenat.ac.cr/?option=com_content&view=article&id=80&Itemid=145

- **AD Astra Rocket Costa Rica.**

Ad Astra Rocket Company (AARC) is an aerospace engineering company dedicated to the development of advanced plasma-based propulsion technologies. The company is developing the variable specific impulse plasma magneto (VASIMR) engine and its associated technologies. It is also currently developing an integrated "turnkey" solution for distributed renewable energy systems, relevant to many niche applications around the world. One of them consists of the hydrogen energy cycle (production, storage and use). For more information visit the link:

<http://www.adastrarocket.com/aarc/>

http://www.adastrarocket.com/Ad_Astra_RD.pdf

Sector's regulations and rules

The aerospace quality standard adhered to by the CRAC cluster companies is based on ISO 9001: 2000, which contains a hundred specific requirements for the aerospace area. It provides suppliers with an understandable quality system focused on areas that directly impact the safety and reliability of the product in the aerospace industry, including:

- [Standards AS 9100](#)
- [NADCAP Standards](#)

In Costa Rica there is no particular regulation for aerospace. However, the aforementioned standards are audited by private companies and are regulated by the Institute of Technical Standards of Costa Rica, <http://inteco.or.cr/esp/>.



Incentives for Foreign Investment²

European companies interested in establishing a subsidiary or carrying out a project in Costa Rica may choose to enjoy the exemptions offered by the **Free Zone Regime (RZF)**. For research and development projects, for example, with only an investment of \$ 150,000 in 3 years, the European company can enjoy a series of fiscal and tax incentives granted by the Costa Rican government. The Law of Free Zones No. 7210 and its regulations regulate this regime. For more details we recommend reading the ELANBiz tab called "Investing in Costa Rica" in the link: <http://www.elanbiz.org/invest-in-costa-rica>

Events of the sector:

Human Space Technology Initiative (HSTI)

Date: Mar 07, 2016 - Mar 11, 2016

Location: Costa Rica, San Jose

Theme: Aerospace - Defence

Organization: United Nations, Office of Aerospace Affairs

Links of interests

- **The Costa Rican Foreign Trade Promoter** - PROCOMER as a foreign trade promoter has and supports companies in the Foreign Trade sector throughout the business sector in Costa Rica. For more information visit: <http://www.procomer.com/es/>
- **CINDE** – foreign direct investment promotion agency of Costa Rica: <http://www.cinde.org/en/incentives>
- **Cluster for the Aerospace Sector**- The most complete information on the Aerospace Sector in Costa Rica can be found on the website: <http://costaricaaerospace.com/> y <http://www.procomer.com>

² **CINDE** – foreign direct investment promotion agency in Costa Rica:
<http://www.cinde.org/es/sectores/manufactura-avanzada>
<http://www.cinde.org/es/por-que/incentivos>



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- Case study on Costa Rican companies Avionyx and Camtronics included in the study by the Interamerican Development Bank:
<http://www19.iadb.org/intal/intalcdi/PE/2013/12904.pdf>
- **Costa Rica in the Aerospace Global Value Chain.** Opportunity for Entry and Upgrading, 2013. DUKE – Centre on Globalization, Governance and Competitiveness.
http://www.cggc.duke.edu/pdfs/2013_08_20_Ch4_Aerospace.pdf



Companies of the Aerospace Sector participating in the CRAC Cluster

	Nombre de la empresa	Origen de la inversión	Segmento de la Cadena de Valor	Año fundada	Participación en exportaciones aeroespacial
1	Ad Astra Rocket	CR	Design and engineering	2005	100%
2	Atemisa Precision	CR	Components - finishing and machining	1991	N/D
3	Avionyx	USA	Components; software	2004	100%
4	Cameraica	CR	Metrological assurance	N/D	33%
5	Camtronics	USA	Components - electronics and plastics	1992	N/D
6	Central America Silicone Supplier	CR	Manufacturing of materials base on silicon for the medical and aerospace industries	N/D	10%
7	Coopesa	CR	Aftermarket; maintenance, repair and overhaul (MRO)	1963	100%
8	Ten Orlich (DO)	USA	Components - finishing and machining	N/D	33%
9	DIFACOM Carbon fiber	CR	Components - metal mechanic, machining and finishing	1983	N/D
10	FORTECH	CR	Components - metal mechanic, machining and finishing	1994	N/D
11	H & S Metalmecánica	CR	Components - metal mechanic, machining and finishing	N/D	N/D
12	Helicorp	USA	Aftermarket; MRO; assembly of helicopters	2004	100%
13	Irazú Electronics	USA	Components - electronics	2001	40%
14	L3 Communications	USA	Components - electronics	2001	60%
15	Mechania Engineering	CR	Design and engineering	2002	N/D
16	Microfinish	USA	Components - electro mechanics	1999	10%
17	Multimix Microtechnology	USA	Components - electrical	1999	N/D
18	Olympic Precision	USA	Components - machining and finishing	1996	20%
19	R & R Precision	CR	Components - metal, finishing and machining	1979	10%
20	Ridge Run	USA	Components, software	2006	N/D
21	Sansaa Aircraft Parts	USA	Aftermarket; MRO; wheels, hydraulics, landing gear	N/D	100%
22	Sensor Group CR	USA	Components - electronics	2006	33%



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23	Tech Shop	CR	Aftermarket; MRO; metal	1981	100%
24	Teradyne de CR	USA	Aftermarket; MRO; electronics	2000	N/D
25	Tico Electronics	USA/CR	Components - electrical	1995	100%
26	Trimpot Electronicas	USA	Components - electrical	1979	10%
27	West Star (Estrella de Precision Tecnologica)	USA	Subassemblies – metal airframe assemblies	2000	50%

Fuente: DUKE – Center on Globalization, Governance and Competitiveness: Costa Rica in the Aerospace Global Value Chain. Opportunity for Entry and Upgrading, 2013.

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