

INTERNATIONAL CIVIL AVIATION ORGANIZATION
SOUTH AMERICAN REGIONAL OFFICE

SAM-AT Project

Development Plan for the Sustainability of Air Transport Growth in the South American Region

**Institutional Strengthening Module
of the Aircraft Accident Investigation Authorities**

Lima, March 2017

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Executive Summary

The States of the South American Region are signatories to the Convention on International Civil Aviation, signed in Chicago on December 7, 1944 (Chicago Convention), and are Contracting States of the International Civil Aviation Organization (ICAO), body responsible for implementing the provisions of the Convention.

As signatories to the Chicago Convention, States have adopted a legal and regulatory framework in the field of civil aviation, based on the provisions of the Convention and in the international standards, recommended practices and procedures prescribed in its 19 Annexes. In that context the civil aviation authorities formulate, promulgate and oversee the implementation of a set of national rules governing civil aviation, air transport and aircraft accident investigation among other aeronautical activities in each State.

In conformity with Article 26 of the Chicago Convention, it is incumbent on the State in which an aircraft accident occurs to institute an inquiry into the circumstances of the accident. This obligation can be met only when appropriate legislation on aircraft accident investigation is in place. Such legislation shall make provision for the establishment of an accident investigation authority (or commission, board or other body) for the investigation of aircraft accidents and incidents that is independent from State aviation authorities and other entities that could interfere with the conduct or objectivity of an investigation.

The accident investigation authority must be strictly objective and totally impartial and must also be perceived to be so. The authority should be established in such a way that it can withstand political or other interference or pressure. Many States have achieved this objective by setting up their accident investigation authority as an independent statutory body or by establishing an accident investigation organization that is separate from the civil aviation administration. In these States, the accident investigation authority reports directly to Congress, Parliament or a ministerial level of government.

Concerning the independence of investigations, Annex 13 to the Chicago Convention prescribes that a State shall establish an accident investigation authority that is independent from State aviation authorities and other entities that could interfere with the conduct or objectivity of an investigation.

Guidance material on the independence of an accident investigation authority is contained in the ICAO *Manual of Aircraft Accident and Incident Investigation* (Doc 9756), Part I — *Organization and Planning* and the *Manual on Accident and Incident Investigation Policies and Procedures* (Doc 9962).

AIG situation within the SAM Region

According to the latest results obtained within the framework of the activities of the ICAO Universal safety oversight audit programme (USOAP), accident and incident investigation (AIG) is the audit area with the lowest effective implementation (EI) regarding the safety oversight capability of SAM States, with an average of 66.69% at regional level.

Such situation affects the safety oversight capability of SAM States and compliance with Annex

13, other related Annexes, and AIG protocol question (PQ) requirements under the continuous monitoring approach (CMA) of the ICAO Universal safety oversight audit programme (USOAP).

In order to determine the level of independence and effectiveness of the aircraft accident investigation authorities established in the SAM Region, the ICAO South American Regional Office decided to carry out a study to identify the causes of the low effective implementation of appropriate actions in the AIG field and recommend improvement measures to concerned States.

The objective of the study is also to define and complete a baseline of the institutional strength of the aircraft accident investigation authorities of the SAM Region, based on the measurement of their independence indexes.

This study is based on the compilation and analysis of available information on the legal bases that support the establishment and operation of the aircraft accident investigation authorities of the South American Region.

Model used

The study uses the model developed by Dr. Fabrizio Gilardi in his book *“Delegation in the Regulatory State: Independent Regulatory Agencies in Western Europe”* (Edward Elgar Publishing Limited, 2008), for the measurement of the independence index of the authorities.

The dynamics of Gilardi's model is based on the analysis of the status of each authority, examining five dimensions especially relevant, inherent to its organization and management:

- A. Status of the agency head,
- B. Status of the members of the management board,
- C. Relationship with government and parliament,
- D. Financial and organizational autonomy, and
- E. Regulatory competencies.

The model measures the level of independence of the studied authorities, with values ranging from 0 to 1, where 1 represents the highest level of independence and 0 a total dependency. For this purpose, the maximum weight of the quantification given to each of the five dimensions is 0.20. The sum of its results will be the independence index of the authority studied, it being important to note that this index refers only to the formal aspects of independence, since informal or de facto independence is not considered.

The examination of the five dimensions is broken down into a series of 21 indicators (6 for A., 6 for B., 4 for C., 4 for D. and one for E.). Each indicator corresponds to a set of possible options, measurable through a pre-set coding in the model, which gives each one a score ranging from 0.00 to 1.00, depending on the applicable option.

Authorities studied

The present study examines the situation of the States of the South American Region that have an independent aircraft accident investigation authority, with respect to their aeronautical legislation, civil aviation systems and level of independence of such authority. Among its

purposes, the study seeks to establish a baseline to periodically measure the level of institutional strength of each authority.

The aircraft accident investigation authorities studied are: Civil Aviation Accident Investigation Board (JIAAC) of Argentina, Center for Investigation and Prevention of Aeronautical Accidents (CENIPA) of Brazil, Accident Investigation Board (JIA) of Ecuador, Aircraft Accident and Incident Investigation Commission (CIAIA) of Uruguay and Directorate General for the Prevention and Investigation of Air Accidents (DGPIAA) of Venezuela.

The States of the SAM Region not included in this study lack an accident investigation authority that is independent from State aviation authorities and other entities that could interfere with the conduct or objectivity of an investigation, as prescribed in Annex 13 to the Chicago Convention.

Results and conclusions

The study has been based on information on the legal foundations that support the establishment and operation of five aircraft accident investigation authorities of the South American Region, to analyze their situation with respect to the five dimensions of the Gilardi model chosen for its measurement, and to establish, based on the general score obtained, a baseline to periodically verify the independence index that defines the institutional strengthening of each authority.

The results of the study are presented below followed by the emerging conclusions, which propose a series of improvement measures related to each of the five dimensions of the model.

A. Status of the agency head

The status of the director of the aircraft accident investigation authority in five States of the South American Region indicates that the appointment comes from the government at the highest level in two States and from the minister of the sector in the other 3. The low score levels are due to the lack of specific provisions regarding the appointment of the director as for the term of office, renewal, dismissal and independence.

Conclusion:

It is required to increase the stability and independence of the post of director of the aircraft accident investigation authority, released from political power in the context of the evaluation model used, for which it will be necessary for the States concerned to adopt measures to establish that it be appointed by a collegiate body that forms part of the organizational structure of the authority, with a duration of eight years or more, nonrenewable, without the possibility of dismissal except for legally prescribed reasons, that is prevented from holding other offices in government and that independence is a formal requirement for the appointment.

B. Status of the members of the management board

The lack of a management board or similar collegiate body affects the levels of independence of aircraft accident investigation authorities in 4 States.

Conclusion:

With regard to the management board of the aircraft accident investigation authorities, it will be necessary for the States concerned to adopt measures to:

- Formulate a statute or similar instrument that concentrates all provisions concerning the establishment, organization and operation of the aircraft accident investigation authority and its management board at the direction level.
- Establish the management board with powers to appoint the director of the aircraft accident investigation authority and increase the autonomy and independence of this authority in its decisions, as well as in the management of an organizational structure more appropriate for the development of its competencies.
- Establish that the director of the aircraft accident investigation authority appoint the members of the management board for a term of 8 years or more, nonrenewable, without the possibility of dismissal except for legally prescribed reasons, that are prevented from holding other offices in government and that independence is a formal requirement for the appointment.

C. Relationship with government and parliament

The level of the scores reached in this dimension is high and homogeneous. The differences are due to the fact that the independence of the authority has not been formally established in one State; the authorities meet obligations vis-à-vis the government in 2 States and the authority is fully accountable to the government in one State.

Conclusion:

The aircraft accident investigation authorities of the South American Region have a high degree of independence in their relationship with the government and the parliament. In order to be optimal, by reaching the highest score according to the measurement model used, the States concerned should adopt measures to:

- Formally establish the independence of the authority.
- Exempt the authority from formal obligations vis-à-vis the government.

D. Financial and organizational autonomy

The analysis of the independence index of the aircraft accident investigation authorities in terms of financial and organizational autonomy shows the following: the source of the budget comes from the government and industry in 3 States, and exclusively from the government in 2 States; the authority controls its budget only in one State, in another the government accounting office controls it and in the others both the authority and the government exercise control; the power to decide on the internal organization of the authority is shared by both authority and government in one State and is exercised only by the government in four States; the authority is responsible for the policy of its personnel in one State and the management of personnel is shared with the government in 4 States.

Conclusion

The financial and organizational autonomy of the aircraft accident investigation authorities of the South American Region should be strengthened to increase their independence, which requires States to adopt measures to:

- Finance its operation exclusively with resources from the industry and users of its services, in order to eliminate its dependence on the public treasury.
- Exercise autonomously the control of its budget, the management of its internal organization and the administration of personnel.
- Establish or update its website so as to show, as appropriate, information on the aeronautical legislation that supports them and the description of its origin, organizational structure, functions and products.

E. Regulatory competencies

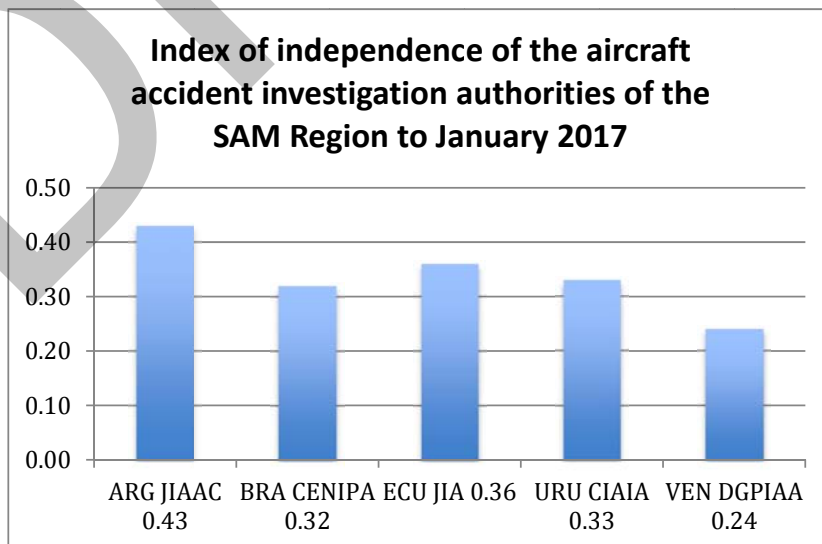
Aircraft accident investigation authorities do not have regulatory competencies, as this attribution is exclusive to civil aviation authorities.

Conclusion

Aircraft accident investigation authorities have consultative competencies only.

Baseline to verify the independence index

As a global result of the study concerning the aircraft accident investigation authorities, it can be established as a baseline to periodically verify their independence index, the score reflected in the following graph, whose breakdown under the five dimensions analyzed is presented in the table that follows.



Term of execution of the proposed improvement actions

It is considered feasible for the authorities concerned of each State to be in a position to consider the proposed improvement actions and to adopt the relevant decisions, for execution in a term not exceeding the year 2020, in order to make the results compatible with the requirements of improvement in the effective implementation of the critical element CE-3, *State civil aviation system and safety oversight functions*, of the State safety oversight system.

RESULTS OF THE STUDY

The following table shows the independence values of the authorities through the five dimensions of the metric applied to the analysis, as well as the overall score of the independence index of each authority.

INDEPENDENCE INDEX OF THE AIRCRAFT ACCIDENT INVESTIGATION AUTHORITIES OF THE SAM REGION							
State	Authority	A	B	C	D	E	Independence
Maximum score		0.20	0.20	0.20	0.20	0.20	1.00
Argentina	JIAAC	0.11	0.00	0.20	0.12	0.00	0.43
Brazil	CENIPA	0.12	0.00	0.18	0.02	0.00	0.32
Ecuador	JIA	0.08	0.00	0.20	0.08	0.00	0.36
Uruguay	CIAIA	0.04	0.08	0.15	0.06	0.00	0.33
Venezuela	DGPIAA	0.09	0.00	0.15	0.00	0.00	0.24
SAM Region (Averages)	AAIAs (5)	0.09	0.02	0.18	0.05	0.00	0.34

Introduction

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The accident investigation authority must be strictly objective and totally impartial and must also be perceived to be so. The authority should be established in such a way that it can withstand political or other interference or pressure. Many States have achieved this objective by setting up their accident investigation authority as an independent statutory body or by establishing an accident investigation organization that is separate from the civil aviation administration. In these States, the accident investigation authority reports directly to Congress, Parliament or a ministerial level of government.

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The objective of the study is also to define and complete a baseline of the institutional strength of the aircraft accident investigation authorities of the SAM Region, based on the measurement of their independence indexes.

The study analyze the independence of the aircraft accident investigation authorities of five South American States, considering the importance of their institutional strengthening associated with the ICAO Strategic Objective on the need to *enhance global civil aviation safety*.

The study is aimed to recognize the independence index of each authority applying the metric of the model developed by Dr. Fabrizio Gilardi in his book "*Delegation in the Regulatory State: Independent Regulatory Agencies in Western Europe*" (Edward Elgar Publishing Limited, 2008).

The results of the study should be verified from time to time in order to identify the changes occurred, thus tending to the constant improvement of the independence index of each authority and, therefore, of its institutional strengthening.

This study is based on the compilation and analysis of available public information on the legal bases that support the establishment and operation of the aircraft accident investigation authorities of the South American Region.

The analysis of the information thus collected will allow a homogeneous and neutral determination of the level of independence of each authority, as well as to establish conclusions derived from the study, aimed at improving its institutional strength.

The study does not consider the performance of the authorities involved, but only its institutional framework, given by legal provisions whose determination does not directly concern them.

Model used for the study

The study uses the model developed by Dr. Fabrizio Gilardi in his book *“Delegation in the Regulatory State: Independent Regulatory Agencies in Western Europe”* (Edward Elgar Publishing Limited, 2008), for the measurement of the independence index of the aeronautical authorities. This model is the product of many years of research on the subject and has been used, with positive results, applied to regulatory agencies of different sectors in several countries.

The defining characteristic of the regulatory entities studied in Gilardi's book is its independence. They are established and act out of the direct control of the elected authorities, hence the denomination of independent regulatory agencies (IRA). Which is to say that they would be exempt from political control by the government on duty, being able to be independent of the politicians to different degrees. This can be seen in the dynamics of Gilardi's model, based on the analysis of the status of each authority, examining five dimensions especially relevant, inherent to its organization and management:

- A. Status of the agency head,
- B. Status of the members of the management board,
- C. Relationship with government and parliament,
- D. Financial and organizational autonomy, and
- E. Regulatory competencies.

The model measures the level of independence of the studied authorities, with values ranging from 0 to 1, where 1 represents the highest level of independence and 0 a total dependency. For this purpose, the maximum weight of the quantification given to each of the five dimensions is 0.20. The sum of its results will be the independence index of the authority studied, it being important to note that this index refers only to the formal aspects of independence, since informal or de facto independence is not considered.

The examination of the five dimensions is broken down into a series of 21 indicators (6 for A., 6 for B., 4 for C., 4 for D. and one for E.). Each indicator corresponds to a set of possible options, measurable through a pre-set coding in the model, which gives each one a score ranging from 0.00 to 1.00, depending on the applicable option.

With regard to dimensions A and B, on the status of the agency head and members of the management board, the six indicators that define them relate to the term of office, who appoints them, dismissal possibilities, if they may hold other offices in government, renewal of appointments and whether independence is a formal requirement for the appointment.

The term of office is an indicator with six options, where the first, over 8 years, is the best and will have a score of 1.00, while the last one, with no fixed term, is the worst with a score of 0.00. The other four options, of intermediate terms, will have equivalent scores, ranging from 0.80 to 0.20 respectively.

The second indicator of dimensions A and B refers to who appoints the agency head and the members of the management board, where there are five options, being the best one when

decisions come from within the agency, usually in accordance with its own statute, with a score of 1.00, respectively, when the agency head is appointed by the members of the management board and when the latter are appointed by the agency head. The worst option is when appointments come from one or two ministers, with a score of 0.00. The other three options, with intermediate scores of 0.75 to 0.25, respectively, refer to appointments by a complex mix of the parliament and the government, by the parliament only or by the government collectively.

Dismissal is the third indicator of dimensions A and B and has four options common to both. The best is given when the dismissal is impossible, with a score of 1.00, and the worst when dismissal is possible at the appointer's discretion, with 0.00 score. The two intermediate options are when dismissal is possible, but only for reasons not related to policy and when there are no specific provisions for dismissal, in such cases the score is 0.67 or 0.33, respectively.

Establish if the nominees under dimensions A and B may hold other offices in government is the fourth indicator, with three common options for both, where no is the optimal, with a score of 1.00, and yes, or no specific provisions, is the worst, with a score of 0.00. The intermediate option, when holding other offices is possible only with the permission of the government, would have a score of 0.50.

The fifth indicator refers to the renewal of appointments and has three options, the best when they are not renewed, with 1.00 of score, and the worst when they are renewed more than once, with a score of 0.00. The intermediate option, when appointments are renewed only once, would have a score of 0.50.

The last indicator of dimensions A and B concerns independence as a formal requirement for the appointment as agency head or as members of the management board, respectively, with two options: when independence is required, with a score of 1.00, or when is not required, with a score of 0.00.

Dimension C, relationship with government and parliament, has four indicators to define it, absolving four questions with different options of answer and, therefore, of punctuation for each one:

Is the independence of the agency formally stated? The affirmative answer has 1.00 of score and the negative, 0.00.

What are the formal obligations of the agency vis-à-vis the government? The answer choices are four. The best, there are no formal obligations, with 1.00 score, and the worst, when the agency is fully accountable to the government, with 0.00 score. The intermediate options are the presentation of an annual report for information only, with a score of 0.67, or the presentation of an annual report that must be approved, with 0.33 score.

What are the formal obligations of the agency vis-à-vis the parliament? As in the case of the previous question, the options are four and the possible answers and scores are similar, but referred to the parliament.

Which body, other than a court, can overturn the decisions of the agency where the latter has exclusive competence? The answer options are four: no body, with 1.00 score; a specialized body with 0.67; the government, with qualifications, with 0.33; or the government, unconditionally, with 0.00.

Dimension D, relative to financial and organizational autonomy, has four indicators to define the independence of the agency in this field, expressed in four questions with several options of response and punctuation, as follows:

What is the source of the agency's budget? The best response option is, fees levied on the regulated industry, with 1.00 score, and the worst, the government, with 0.00 score. An intermediate option would be both the government and fees levied on the regulated industry, with a score of 0.50.

How is the budget controlled? There are four options, the best is by the agency, with 1.00 score, and the worst by the government only, with 0.00 score. The intermediate options are when the control is by the accounting office or court, with 0.67 of score, or by both, the agency and the government, with 0.33 of score.

Which body decides on the agency's internal organization? The answer choices are three. The best is when the agency decides, with 1.00 score, and the worst when the government does, with 0.00 score. The intermediate option, when both the agency and the government make the decision, would have a score of 0.50.

Which body is in charge of the agency's personnel policy? The options are also three and the response possibilities and scores are similar to those of the previous question.

Finally, the dimension E, related to the regulatory competencies of the agency, has a single indicator, also expressed in an interrogative way, with five response options:

Which body is competent for regulation in the relevant domain? The best option is the agency only, with 1.00 score, while the worst would be to recognize that the agency has only consultative competencies, if applicable, with 0.00 of score. The three intermediate options are: the agency and another independent authority, the agency and the parliament or the agency and the government, with scores of 0.75, 0.50 and 0.25, respectively.

Dividing the sum of the options for each indicator by the number of options corresponding to it, the result is subdivided in turn between five, which is the number of dimensions examined, thus obtaining the quantification corresponding to each dimension, whose maximum weight is 0.20. Finally, summing the score obtained by the five dimensions, the quantification of the independence index of the agency studied is reached, with a maximum of 1.00 and a minimum of 0.00.

The tables on the following pages show the details of the components of the Gilardi model (dimensions, indicators, options) as well as the preset coding to qualify the different response options that correspond to each of the 21 indicators.

The procedure to obtain the independence index score is synthesized in the following formula:

$$\left(\frac{(1A+2A+3A+4A+5A+6A)}{6}\right)/5 + \left(\frac{(7B+8B+9B+10B+11B+12B)}{6}\right)/5 + \left(\frac{(13C+14C+15C+16C)}{4}\right)/5 + \left(\frac{(17D+18D+19D+20D)}{4}\right)/5 + (21E/5) = \text{independence index}$$

Where:

1A = Indicator 1 of Dimension A with the coding corresponding to the response option

2A = Indicator 2 of Dimension A with the coding corresponding to the response option

3A = Indicator 3 of Dimension A with the coding corresponding to the response option
and so on until

21E = Indicator 21 of Dimension E with the coding corresponding to the response option

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**THE FORMAL INDEPENDENCE OF REGULATORS:
INDEPENDENCE INDEX**

Dimensions	Weight	Coding
Indicators options		
A. Status of the agency head	0.20	
1. Term of office		
over 8 years		1.00
6 to 8 years		0.80
5 years		0.60
4 years		0.40
fixed term under 4 years or at the discretion of the appointer		0.20
no fixed term		0.00
2. Who appoints the agency head?		
the members of the management board		1.00
a complex mix of the parliament and the government		0.75
the parliament		0.50
the government collectively		0.25
one or two ministers		0.00
3. Dismissal		
dismissal is impossible		1.00
dismissal is possible, but only for reasons not related to policy		0.67
there are no specific provisions for dismissal		0.33
dismissal is possible at the appointer's discretion		0.00
4. May the agency head hold other offices in government?		
no		1.00
only with the permission of the government		0.50
yes/no specific provisions		0.00
5. Is the appointment renewable?		
no		1.00
yes, once		0.50
yes, more than once		0.00
6. Is independence a formal requirement for the appointment?		
yes		1.00
no		0.00
B. Status of the members of the management board	0.20	
7. Term of office		
over 8 years		1.00
6 to 8 years		0.80
5 years		0.60
4 years		0.40
fixed term under 4 years or at the discretion of the appointer		0.20
no fixed term		0.00
8. Who appoints the members of the management board?		
the head of the agency		1.00
a complex mix of the parliament and the government		0.75
the parliament		0.50
the government collectively		0.25
one or two ministers		0.00
9. Dismissal		
dismissal is impossible		1.00
dismissal is possible, but only for reasons not related to policy		0.67
there are no specific provisions for dismissal		0.33
dismissal is possible at the appointer's discretion		0.00
10. May the members of the management board hold other offices in government?		
no		1.00
only with the permission of the government		0.50
yes/no specific provisions		0.00
11. Is the appointment renewable?		
no		1.00
yes, once		0.50
yes, more than once		0.00
12. Is independence a formal requirement for the appointment?		
yes		1.00
no		0.00

C. Relationship with government and parliament	0.20	
13. Is the independence of the agency formally stated?		
yes		1.00
no		0.00
14. What are the formal obligations of the agency vis-à-vis the government?		
there are no formal obligations		1.00
presentation of an annual report for information only		0.67
presentation of an annual report that must be approved		0.33
the agency is fully accountable to the government		0.00
15. What are the formal obligations of the agency vis-à-vis the parliament?		
there are no formal obligations		1.00
presentation of an annual report for information only		0.67
presentation of an annual report that must be approved		0.33
the agency is fully accountable to the parliament		0.00
16. Which body, other than a court, can overturn the decisions of the agency where the latter has exclusive competence?		
no body		1.00
a specialized body		0.67
the government, with qualifications		0.33
the government, unconditionally		0.00
D. Financial and organizational autonomy	0.20	
17. What is the source of the agency's budget?		
fees levied on the regulated industry		1.00
both the government and fees levied on the regulated industry		0.50
the government		0.00
18. How is the budget controlled?		
by the agency		1.00
by the accounting office or court		0.67
by both the agency and the government		0.33
by the government only		0.00
19. Which body decides on the agency's internal organization?		
the agency		1.00
both the agency and the government		0.50
the government		0.00
20. Which body is in charge of the agency's personnel policy (hiring and firing staff, deciding on its allocation and composition)?		
the agency		1.00
both the agency and the government		0.50
the government		0.00
E. Regulatory competencies	0.20	
21. Which body is competent for regulation in the relevant domain?		
the agency only		1.00
the agency and another independent authority		0.75
the agency and the parliament		0.50
the agency and the government		0.25
the agency has only consultative competencies		0.00

Authorities of the South American Region studied

The management of civil aviation in the South American region, as it has happened in other parts of the world, has been associated from the beginning with military aviation. With the sustained growth of air transport, the civil aviation administration has been systematically changing its military links to become independent and autonomous. This change is generally associated with the level of development of countries.

It is frequent in some regions that military dependency often remains due to scarce resources, making sense that due to the size of the industry and the limitations of fiscal coffers, the infrastructure and human resources of military aviation are shared with the requirements of civil aviation.

However, during the last decades the growth of air transport has increased considerably and civil aviation has had to modernize and transform its regulatory and functional framework, due to the technological advances of industry and the social events that influence it.

The changes have originated a rapid evolution in management systems, resulting in a transition from the military to the civilian sector in several countries, in association with the standards and recommended practices prescribed in the Annexes to the Convention on International Civil Aviation.

In adopting the provisions of the Convention relating to national authorities, each State has provided in its legal system for the designation of a civil aviation authority entrusted with its responsibilities the regulator, controller and inspector of civil aviation activities in its jurisdiction. The law creates other entities independent of the civil aviation authority, whether state or non-state, to be responsible for the provision of airport facilities and services, air navigation services, aviation security or accidents and incidents investigation, among other functions.

Concerning responsibility of the State conducting the investigation, Annex 13 to the Chicago Convention provides that *the accident investigation authority shall have independence in the conduct of the investigation and have unrestricted authority over its conduct, consistent with the provisions of this Annex.*

The ICAO Manual of Aircraft Accident and Incident Investigation (Doc 9756) notes that *In conformity with Article 26 of the Convention on International Civil Aviation, it is incumbent on the State in which an aircraft accident occurs to institute an inquiry into the circumstances of the accident. This obligation can be met only when appropriate legislation on aircraft accident investigation is in place. Such legislation shall make provision for the establishment of an accident investigation authority (or commission, board or other body) for the investigation of aircraft accidents and incidents that are independent from State aviation authorities and other entities that could interfere with the conduct or objectivity of an investigation.*

The basic aeronautical legislation of States, known as the Aeronautical Code in most of them, generically states that the *aeronautical authority* will be the agency of the State that is in charge of implementing its provisions and supervising their compliance.

The present study analyzes the situation of the States of the South American Region with regard to their civil aviation systems and the level of independence of their aircraft accident investigation authorities, with the purpose of establishing a baseline that allows to periodically measure their level of institutional strength. These authorities are:

Argentina

Civil Aviation Accident Investigation Board (JIAAC)

Brazil

Center for Investigation and Prevention of Aeronautical Accidents (CENIPA)

Ecuador

Accident Investigation Board (JIA)

Uruguay

Aircraft Accident and Incident Investigation Commission (CIAIA)

Venezuela

Directorate General for the Prevention and Investigation of Air Accidents (DGPIAA)

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Argentine Republic

Aeronautical legislation

The aeronautical legal framework of the Argentine Republic is based on the National Constitution, the relevant international treaties and the following basic laws:

- Decree Law 15.110 of May 24, 1946 and Law 13,891 of December 15, 1949, ratifying the Convention on International Civil Aviation signed in Chicago in 1944.
- Law 17,285 of May 17, 1967, Aeronautical Code.
- Law 19,030 of May 7, 1971, of National Policy on Commercial Air Transport.

The regulation of civil aviation activities is complemented by the following legislation:

- Decree 10.131 of May 5, 1945, create the National Meteorological Service.
- Decree 299 of January 12, 1954, create the Civil Aviation Accident Investigation Board.
- Decree 375/97 of April 24, 1997, create the Regulatory Agency of the National System of Airports.
- Law 26.102 of May 31, 2006, creates the Airport Security Police.
- Decree 239/2007 of March 15, 2007, create the National Civil Aviation Administration.
- Decree 1432/2007 of October 10, 2007, update the competencies of the National Meteorological Service.
- Decree 1770/2007 of November 29, 2007, establishes the functions and attributions of the National Civil Aviation Administration and its organizational structure.
- Decree 1193 of August 24, 2010, transfers the Civil Aviation Accident Investigation Board to the Secretary of Transportation.
- Resolution 213 of March 31, 2011, implementation plan of the national aviation safety system.
- Decree 1840/2011 of November 12, 2011, transfers the provision of air navigation services from the National Civil Aviation Administration to the Argentine Air Force.
- Decree 875/2012 of June 6, 2012, modifies the organization of the ministries.
- Decree 2315/2013 of December 20, 2013, organic structure of the Civil Aviation Accident Investigation Board.
- Law 27,161 of July 15, 2015, creates the Argentine Air Navigation Enterprise.
- Decree 13/2015 of December 10, 2015, Law of Ministries.
- Argentine Civil Aviation Regulations (RAAC), national technical standards issued and approved by the aeronautical authority in application of the standards and recommended practices in the ICAO Annexes.

Civil aviation system

The management of civil aeronautical activity in the Argentine Republic is carried out by three sectors: the ministries of Transport, Defense and Security, through the agencies described below.

- **National Civil Aviation Administration (ANAC).** It was created by Decree 239/2007 in the scope of the Secretariat of Transport of the Ministry of Federal Planning, Public Investment and Services as a decentralized agency, with the main mission of regulating

and supervising Argentine civil aviation in harmony with the standards and recommended practices in the Annexes to the Chicago Convention. The National Civil Aviation Administrator is the highest authority of the organization, exercising the functions of regulation, control and administration of civil aeronautical activity as the sole national aeronautical authority. According to the provisions of Law 27,161 of 2015, the ANAC guarantees the professional and technical training to the workers of the Argentine Air Navigation Enterprise State Society (EANA SE) and the National Air Traffic Control Department, and exercises the regulation, supervision and control of both agencies as service providers.

Due to the restructuring of the Executive Power provided by Decree 13/2015, the ANAC is currently linked to the Ministry of Transport.

- **Civil Aviation Accident Investigation Board (JIAAC).** It was created by Decree 299 of 1954 and acts with the organization, attributions and functions granted by Decree 1193 of 2010, currently as a decentralized body of the Ministry of Transport under Decree 13/2015.

One of its functions is to maintain the relations previewed by Annex 13 to the Chicago Convention, both with ICAO and with civil Aircraft accident investigation agencies of other countries. Also, publish and disseminate, as a contribution to aviation safety, the collection of reports and statistics relating to civil aviation accidents and incidents.

- **Argentine Air Navigation Enterprise State Company (EANA S.E.).** It was created by Law 27.161 of 2015 in the orbit of the Ministry of Interior and Transport, and currently operates as a decentralized body of the Ministry of Transport. Its purpose is the provision of air navigation services in the territory of the Argentine Republic and in extraterritorial air spaces that are under its jurisdiction. It is run by a three-member board of directors, whose president acts as general manager, and has a ten-member advisory board that intervenes in the treatment of technical issues that the board proposes.
- **National Directorate of Air Traffic Control (DNCTA).** It was created by Decree 1840 of 2011 as the General Directorate of Air Traffic Control within the scope of the Argentine Air Force. Later it changed its denomination to National Directorate, depending on the General Staff of the Argentine Air Force of the Ministry of Defense. The DNCTA and the EANA S.E. plan and elaborate together all that concerns the organization and management of airspace. The ANAC supervises, publishes and distributes the products of both agencies and, together with the EANA S.E., guarantees to the DNCTA the mechanisms so that its operational and technical personnel can be properly trained. The managing of the DNCTA is in charge of a National Director and a Deputy Director, both superior officers of the Argentine Air Force.
- **Airport Security Police (PSA).** Law 26.102 of 2006, which also established the Airport Security System within the Ministry of Interior's Secretariat of Interior Security, created it. In 2015 it became dependent on the PSA Police Control Directorate in the Ministry of Security's Secretariat of Interior Security and is the authority to apply the standards and recommended practices by ICAO on the security and protection of civil aviation against acts of unlawful interference, as well as of the treaties signed on the subject and of the

transport of dangerous goods by air issues. The management of the PSA is carried out by the National Directorate of the Airport Security Police, in charge of an official with the rank of National Director appointed by the Executive Power.

- **Regulatory Agency of the National Airports System (ORSNA).** It was created by Decree 375/97 of 1997 in the orbit of the Secretariat of Public Works and Transport of the Ministry of Economy and Public Works and Services. It regulates, controls and supervises the services provided by the air terminals that are part of the National Airports System constituted by the same decree. In 2015 it became a dependency of the Ministry of Transport as decentralized agency. One of its objectives is to ensure the reliable operation of airport services and facilities in accordance with the applicable national and international standards, establishing the rules, systems and technical procedures required to manage, operate, conserve and maintain airports. The ORSNA is conducted and managed by a board composed of four members, one of who is its president, and has an advisory council.
- **National Meteorological Service (SMN).** It was created by Decree 10,131 of May 5, 1945, depending since then on different ministries. Decree 1432 of 2007 updated its competencies and ordered that it develops its action as a decentralized agency within the Secretariat of Science, Technology and Production of the Ministry of Defense. In accordance with Law 27,161 of 2015, it provides the meteorological service for air navigation to the EANA S.E., complying with the standards set by the ANAC as aeronautical authority. The conduction of the SMN is in charge of a director appointed by the Executive Power, assisted by Technical Advisory Council composed of six members.

The independence index of the Civil Aviation Accident Investigation Board (JIAAC) as the aircraft accident investigation authority of the Argentine Republic is analyzed below, applying the Gilardi model for the measurement.

Civil Aviation Accident Investigation Board (JIAAC) of the Argentine Republic

Decree 299 of 1954 created the Civil Aviation Accident Investigation Board as the authority responsible for investigating civil aircraft accidents. In 1970 it happened to depend on the Air Regions Command of the Argentine Air Force with the missions and functions conferred by the Aeronautical Code.

Decree 1770 of 2007 determined the transfer of the JIAAC to the Secretary of Transportation of the Ministry of Federal Planning, Public Investment and Services.

Decree 1193 of 2010 provided for the JIAAC to act as a decentralized agency in the orbit of the Transport Secretariat of the Ministry of the Interior and Transport, with economic-financial autarky, its own legal personality and capacity to act in the ambit public and private law, detailing their functions and missions.

The same standard provided for the JIAAC to be composed of a President with a hierarchy equivalent to Undersecretary and a Vice-President with hierarchy equivalent to General Director, both appointed by the Executive Power.

The restructuring of the Executive Power established by Decree 13 of 2015, ranked the former Secretariat of Transportation, together with its decentralized and deconcentrated agencies, creating the Ministry of Transportation, to which the JIAAC is currently linked.

The JIAAC's first level organic structure is conformed by:

- Civil Aviation Accident Investigation Board
- President
- Vice president
- A. Internal audit unit
- B. National accident investigation directorate
- C. National management control and development directorate
 - a. Management directorate
 - b. Legal affairs directorate
 - c. Human resources directorate
 - i. Department of summaries.

The JIAAC's main functions are:

- a. Investigate technically the civil aviation accidents and incidents;
- b. Determine the probable causes of the accidents and incidents investigated;
- c. Recommend actions that prevent the future occurrence of accidents and incidents similar to those investigated;
- d. Publish and disseminate the compilation of reports and statistics relating to civil aviation accidents and incidents, and
- e. Train personnel in the techniques and procedures for the investigation of aviation accidents.

Quantification of the JIAAC's independence

The analysis of legislation sustaining the establishment of the Argentine Republic's Civil Aviation Accident Investigation Board, applying the Gilardi method adopted to quantify the independence of an authority, shows the following with respect to the five dimensions and 21 indicators that make up the model.

A. Status of the agency head

Article 4 of Decree 1193/2010 stipulates that the President of the JIAAC with hierarchy equivalent to Undersecretary, and a Vice President, with hierarchy equivalent to Director General, both appointed by the National Executive Power, shall exercise its government and administration.

The rules do not establish the duration of the JIAAC's President term nor do they specify if the appointment is renewable. By the hierarchical level of the position, it is inferred that it cannot hold other offices in government and that independence is a requirement for the designation.

Consequently, the applicable score to each indicator of this dimension is as follows:

1. Term of office no fixed term	0.00
2. Who appoints the agency head? the government collectively	0.25
3. Dismissal dismissal is possible at the appointer's discretion	0.00
4. May the agency head hold other offices in government? no	1.00
5. Is the appointment renewable? no	1.00
6. Is independence a formal requirement for the appointment? yes	1.00

The total score is 3.25, with an average of 0.54, which divided by five (the quantity of dimensions) gives **0.11** of score for this dimension.

B. Status of the members of the management board

The JIAAC's organic structure does not include a management board. For this reason, the score applicable to the indicators of this dimension (7. to 12.) and to the dimension itself is **0.00**.

C. Relationship with government and parliament

Article 1 of Decree 1193/2010 establishes that the JIAAC will develop its action as a decentralized agency in the orbit of the Secretariat of Transport of the Ministry of Federal Planning, Public Investment and Services, with economic-financial autarky, own legal personality and capacity to act in the field of public and private law.

The JIAAC does not have formal obligations vis-à-vis the government and parliament and no

body are identified that can overturn the decisions that it adopts where it has exclusive competence, other than a court.

Consequently, the applicable score to each indicator of this dimension is as follows:

13.	Is the independence of the agency formally stated? yes	1.00
14.	What are the formal obligations of the agency vis-à-vis the government? there are no formal obligations	1.00
15.	What are the formal obligations of the agency vis-à-vis the parliament? there are no formal obligations	1.00
16.	Which body, other than a court, can overturn the decisions of the agency where the latter has exclusive competence? no body	1.00

The total score is 4.00, with an average of 1.00, which divided by five (the quantity of dimensions) gives **0.20** of score for this dimension.

D. Financial and organizational autonomy

Article 5 of Decree 1193/2010 states that the JIAAC's President functions, among others, shall be to exercise the administration of the Board, subscribing for this purpose the pertinent administrative acts, as well as to promote and manage the obtaining of resources and public and private funds, local and foreign, for the fulfillment of the objectives of the Board.

Annex II of Article 1 of Decree 2315/2013 establishes as the primary responsibility of the JIAAC's Internal Audit Unit to verify the maintenance of an adequate internal control system incorporated into the jurisdiction's organization.

Article 6 of Decree 1193/2010 stipulates that the JIAAC's President will approve, following the intervention of the Secretariat of Transport of the Ministry of Federal Planning, Public Investment and Services, the technical project for the organization and operation of the board. Article 5 of Decree 2315/2013 indicates as a function of the JIAAC's President to appoint, hire national or foreign experts, remove, sanction and direct staff.

Consequently, the applicable score to each indicator of this dimension is as follows:

17.	What is the source of the agency's budget? both the government and fees levied on the regulated industry	0.50
18.	How is the budget controlled? by both the agency and the government	0.33
19.	Which body decides on the agency's internal organization? both the agency and the government	0.50
20.	Which body is in charge of the agency's personnel policy (hiring and firing staff, deciding on its allocation and composition)? the agency	1.00

The total score is 2.33, with an average of 0.58, which divided by five (the quantity of

dimensions) gives **0.12** of score for this dimension.

E. Regulatory competencies

The JIAAC has only consultative competencies.

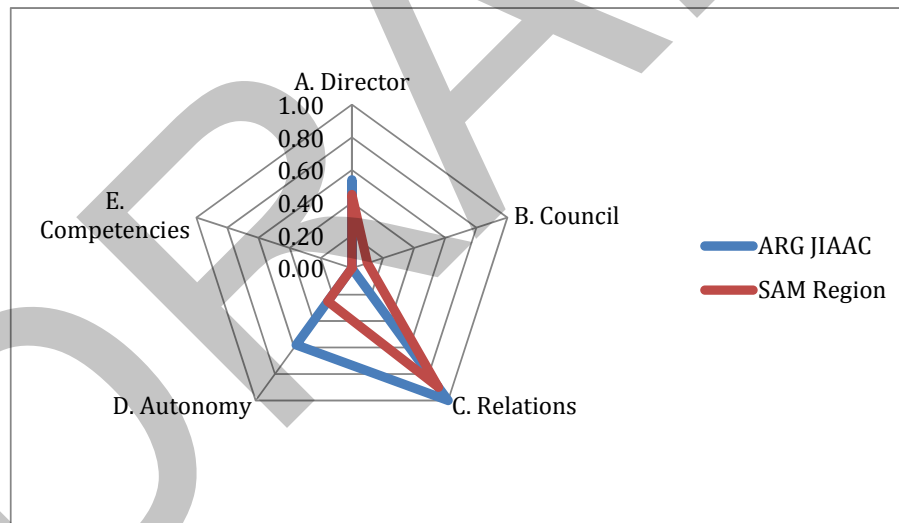
21. Which body is competent for regulation in the relevant domain? the agency has only consultative competencies	0.00
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The score applicable to the only indicator of this dimension and to the dimension itself is 0.00.

JIAAC's independence index

The sum of the score of the five dimensions gives a total score of **0.43** as the independence index of the Civil Aviation Accident Investigation Board of the Argentine Republic.

The independence index of the aircraft accident investigation authorities of the South American Region analyzed as at January 2017, reaches a score of 0.34 on average, with partial scores of 0.09, 0.02, 0.18, 0.05 and 0.00 for the five dimensions of the model, respectively, whose comparison with the marks obtained for the JIAAC of Argentina is shown in the following graph:



The independence index of **0.43** for the JIAAC of Argentina, establishes the baseline as of January 2017 to periodically measure the level of its institutional strength, seeking to increase it gradually, considering the importance of the institutional strengthening of the authorities for aviation safety in the South American region, associated with the ICAO's strategic objective of *enhance global civil aviation safety*.

Conclusions of the analysis

The institutional strength of the JIAAC of Argentina reaches a 43% of the ideal level established by the Gilardi model, which measures the level of independence of the authorities with values

ranging from 0 to 1, where 1 represents the highest level of independence and 0 a total dependency.

The conditions that would affect in a 57% the independence and, therefore, the institutional strength of the JIAAC of Argentina can improve by adopting measures that allow to:

- a. Establish a management board at the direction level, with powers to appoint the President and to support and increase the autonomy and independence of the authority in its decisions, as well as in the management of an organizational structure more appropriate for the development of its competencies;
- b. Establish that the President be appointed by the management board for a term of 8 years or more, nonrenewable, without the possibility of dismissal except for legally prescribed reasons, that is prevented from holding other offices in government and that independence is a formal requirement for the appointment;
- c. Provide that the members of the first management board be appointed by the current President of the JIAAC;
- d. Establish that, subsequently, the members of the management board be appointed by the President for a term of 8 years or more, non-renewable, without the possibility of dismissal except for legally prescribed reasons, that are prevented from holding other offices in government and that independence is a formal requirement for the appointment;
- e. Increase the collection of revenues generated by its services in order to eliminate its dependence on public funds;
- f. Exercise autonomously the control of its budget and internal organization;
- g. Update its website so that it shows its organic structure.

Federative Republic of Brazil

Aeronautical legislation

Civil aviation in the Federative Republic of Brazil is based on the Federal Constitution, treaties, conventions and international acts celebrated by delegation of the Executive Power and approved by the National Congress, with the complement of special laws, decrees and resolutions on the matter, such as the following instruments:

- Decree 21.713 of August 27, 1946, promulgates the Convention on International Civil Aviation concluded in Chicago on December 7, 1944, signed by the Federative Republic of Brazil in Washington DC on May 29, 1945.
- Decree 69.565 of November 19, 1971, create the Center for Investigation and Prevention of Aeronautical Accidents (CENIPA).
- Law 5.862 of December 12, 1972, establishes the Brazilian Airport Infrastructure Enterprise (INFRAERO).
- Law 7.565 of December 19, 1986, Brazilian Code of Aeronautics (CBA), and subsequent norms introducing modifications to this law.
- Law 10.683 of May 28, 2003, organization of the Presidency of the Republic and of the Ministries.
- Law 11.182 of September 27, 2005, creates the National Civil Aviation Agency (ANAC).
- Decree 5.731 of March 20, 2006, organizational structure of the ANAC.
- Decree 6.780 of February 18, 2009, approve the national civil aviation policy formulated by the Civil Aviation Council (CONAC).
- Decree 6.834 of April 30, 2009, establish the Department of Air Space Control (DECEA).
- Law 12.462 of August 4, 2011, establishes the Secretariat of Civil Aviation (SAC).
- Law 13.341 of September 29, 2016, organization of the Executive Power.
- Brazilian Civil Aviation Regulations (RBAC), national technical regulations issued and approved by the aeronautical authority in application of the standards and recommended practices in the ICAO Annexes.

Civil aviation system

Until 2005, Brazil's civil aviation system was subordinate to the Brazilian Air Force's Command of Aeronautics (FAB), under the Ministry of Defense, headed by the Department of Civil Aviation (DAC) as the aeronautical authority and head of the sub sector. The DAC had the support of the Commission of Studies related to the International Air Navigation (CERNAI).

The provision of air navigation facilities and services was in charge of the Electronics and Flight Protection Directorate (DEPV), under the FAB General Support Command, as the central agency of the Brazilian airspace control system. The state-owned company Aeronautical Telecommunications S.A. (TASA) provided air navigation services.

In the last decade the role of the State in the aeronautical sector has been redefined. The model in force until 2011, which depended on the Ministry of Aeronautics and after the Ministry of Defense as a whole, was modified with the introduction of a new institutional framework in the orbit of the Ministry of Transport, now called Ministry of Transport, Ports and

Civil Aviation. In this way, the main bodies of the civil aviation system were transferred from the military to the civilian sector, being in charge of the following agencies:

- **Secretariat of Civil Aviation (SAC).** It was established by Law 12,462 of August 4, 2011, with a ministerial rank, linked to the Presidency of the Republic, in order to coordinate and supervise actions for the strategic development of civil aviation and airport and aeronautical infrastructure in the Federative Republic of Brazil.

Among its responsibilities are the planning of the aerial sector, the coordination of funds for infrastructure development, especially the National Civil Aviation Fund established by the same law, and the coordination of the bodies of the Brazilian civil aviation system, such as the ANAC and INFRAERO, entities that were transferred from the Ministry of Defense.

Through Law 13.341 of September 29, 2016, the SAC became dependent on the Ministry of Transport, Ports and Civil Aviation.

- **National Civil Aviation Agency (ANAC).** It was created by Law 11.182 of September 27, 2005 in the orbit of the Ministry of Defense, to regulate and supervise the activities of civil aviation and aeronautical and airport infrastructure.

Decree 5.731 of March 20, 2006 established the installation and organizational structure of the ANAC and approved its regulations, beginning its role as the national aeronautical authority, replacing the Civil Aviation Department.

Article 49 of Law 12.462 of August 4, 2011 provided for the transfer of competencies related to civil aviation from the Ministry of Defense to the Civil Aviation Secretariat of the Ministry of Transport, Ports and Civil Aviation.

- **Brazilian Airport Infrastructure Enterprise (INFRAERO).** It was established by Law 5.862 of December 12, 1972 as a public enterprise linked to the Ministry of Aeronautics, to implement, manage, administer and operate the airport infrastructure of the country. In 1995 it expanded its competencies incorporating the company Aeronautical Telecommunications S.A. (TASA), assuming, since then, the provision of air navigation services.

INFRAERO is organized as a public limited company, with legal personality of private law, own patrimony, and administrative and financial autonomy. Since April 2011 it passed to the orbit of the Ministry of Transport, Ports and Civil Aviation through the Secretariat of Civil Aviation.

- **Air Space Control Department (DECEA).** Agency of the Air Force Command of the Ministry of Defense, established by Decree 6834 of April 30, 2009, is the center of the Brazilian airspace control system (SISCEAB).

It comprises 13 organizations responsible for the provision of air traffic services, flight protection, search and rescue and aeronautical telecommunications throughout the country, replacing the DEPV.

- **Center for Investigation and Prevention of Aeronautical Accidents (CENIPA).** It was created by Decree 69.565 of November 19, 1971, as the central organ of the Aeronautical Accident Prevention and Investigation System (SIPAER), which is attached

to the Aeronautical Inspectorate of the Ministry of Aeronautics.

Decree 6.834 of April 30, 2009 ordered its transfer to the Command of Aeronautics of the Ministry of Defense.

The independence index of the Center for Investigation and Prevention of Aeronautical Accidents (CENIPA) as the aircraft accident investigation authority of the Federative Republic of Brazil is analyzed below, applying the Gilardi model for the measurement.

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Center for Investigation and Prevention of Aeronautical Accidents (CENIPA) of the Federative Republic of Brazil

The Center for Investigation and Prevention of Aeronautical Accidents is part of the organization of the Command of Aeronautics of the Ministry of Defense, provided for by Decree 6.834 of 2009, and is the central body of the Aeronautical Accident Prevention and Investigation System (SIPAER).

Its aims are to plan, manage, supervise, control and coordinate activities related to the prevention and investigation of aeronautical accidents. It carries out these actions in a universe that involves the three armed forces (Brazilian Air Force, Army and Navy), the National Civil Aviation Agency (ANAC), the Brazilian Airport Infrastructure Enterprise (INFRAERO), airlines and other entities represented.

The National Committee for the Prevention of Aeronautical Accidents (CNPAA), instituted by Article 6 of Decree 87.249 of 1982, is chaired by the Chief of CENIPA and brings together representatives of national entities involved, directly or indirectly, in the aerial activity, with the purpose of establishing the discussion, at a national level, of solutions to problems related to flight safety.

The Internal Regulations of the CNPAA establish the following basic structure: Presidency, Secretariat, Member Entities, Plenary Sessions and Commissions. The CENIPA directs and coordinates the plenary sessions and meetings of the CNPAA.

The CNPAA initially had 16 member entities, which participated in the inaugural Plenary Session. It currently has 70 member entities among ministries, government agencies and enterprises of the sector and airlines.

The organizational structure of CENIPA comprises:

- Head
 - Sub-head
 - A. Support division
 - B. Division of training and further training
 - C. Operational division
 - Counseling
 - D. Flight safety studies center.

It is incumbent upon CENIPA to carry out the following functions:

- a. Plan, regulate, direct, coordinate, control and supervise aviation accident prevention activities implying the Brazilian aeronautical infrastructure;
- b. Regulate, direct, coordinate, control and execute the investigation activities of aviation accidents, aircraft incidents and land occurrences that occur in the national territory;
- c. Supervise, regulate, coordinate, execute and enforce provisions relating to the prevention and investigation of aviation accidents;
- d. Participate in the investigation activities of aviation accidents and incidents abroad that imply: Brazilian civilian operator, Brazilian civil aircraft registration, Brazilian military aircraft or Brazilian-made aircraft;

- e. Develop and disseminate the final reports of aviation accidents, aircraft incidents and occurrences on land;
- f. Coordinate and support the implementation of the plenary sessions and meetings of the National Committee for the Prevention of Aeronautical Accidents (CNPAA);
- g. Plan, execute and supervise the formation, training and technical and professional development of the human resources to carry out activities within the framework of the SIPAER;
- h. Develop the Aeronautical Accident Prevention Program for Brazilian civil and military aviation, jointly with the DECEA and the PSOE of the COMAER; and
- i. Represent the country in international organizations in subjects related to the prevention and investigation of aviation accidents.

Quantification of the CENIPA's independence

The analysis of legislation sustaining the establishment of the Center for Investigation and Prevention of Aeronautical Accidents of the Federative Republic of Brazil, applying the Gilardi method adopted to quantify the independence of an authority, shows the following with respect to the five dimensions and 21 indicators that make up the model.

A. Status of the agency head

Decree 6.834 establishes that it is an attribution of the Aeronautics Commander, among other functions, the appointment or change of the CENIPA chief.

The post of CENIPA's chief usually falls to a Colonel of Aviation, with a usual duration of two years, which does not exceed four, as is clear from the agency's historical information. There are no specific provisions on dismissal.

It is assumed that because of the military situation of the agency, the chief cannot occupy other positions, his designation can extend beyond the usual period, without being renewable, and independence is a requirement bound by the nature of his mission.

Consequently, the applicable score to each indicator of this dimension is as follows:

1. Term of office		
fixed term under 4 years or at the discretion of the appointer		0.20
2. Who appoints the agency head?		
one or two ministers		0.00
3. Dismissal		
No specific provisions for dismissal		0.33
4. May the agency head hold other offices in government?		
no		1.00
5. Is the appointment renewable?		
no		1.00
6. Is independence a formal requirement for the appointment?		
yes		1.00

The total score is 3.53, with an average of 0.59, which divided by five (the quantity of dimensions) gives **0.12** of score for this dimension.

B. Status of the members of the management board

The CENIPA's organic structure does not include a management board. For this reason, the score applicable to the indicators of this dimension (7. to 12.) and to the dimension itself is **0.00**.

C. Relationship with government and parliament

In accordance with Decree 6834 of 2009, CENIPA's objective is to plan, manage, control and enforce activities related to the prevention and investigation of aviation accidents and to advise the Air Force Commander (CMTAER) on matters within its competence. The CENIPA is directly subordinated to the CMTAER.

Among other functions, the CENIPA is responsible for preparing and disseminating the final reports of aviation accidents, aircraft incidents and ground occurrences, as well as the planning and preparation of proposals for the multiannual investment budgets and the financing of annual programs, based on the study of the necessary resources for the development of activities of the system.

The CENIPA does not have formal obligations vis-à-vis the parliament and no body are identified that can revoke the decisions that it adopts in which it has exclusive competence, apart from a court.

Consequently, the applicable score to each indicator of this dimension is as follows:

13. Is the independence of the agency formally stated? yes	1.00
14. What are the formal obligations of the agency vis-à-vis the government? presentation of an annual report for information only	0.67
15. What are the formal obligations of the agency vis-à-vis the parliament? there are no formal obligations	1.00
16. Which body, other than a court, can overturn the decisions of the agency where the latter has exclusive competence? no body	1.00

The total score is 3.67, with an average of 0.92, which divided by five (the quantity of dimensions) gives **0.18** of score for this dimension.

D. Financial and organizational autonomy

The Commander of Aeronautics formulates the economic and financial directives on the management of CENIPA and on matters related to the budget, its execution, financial administration, accounting and internal control of the agency and other agencies of its dependence.

Decree 6.834 establishes that it is the attribution of the Commander of Aeronautics, among other functions, to provide for the organization and operation of the agency.

Due to its connection to the military, the management of the CENIPA personnel depends on the policy that the Ministry of Defense manages in this regard.

Consequently, the applicable score to each indicator of this dimension is as follows:

17. What is the source of the agency's budget? the government	0.00
18. How is the budget controlled? by both the agency and the government	0.33
19. Which body decides on the agency's internal organization? the government	0.00
20. Which body is in charge of the agency's personnel policy (hiring and firing staff, deciding on its allocation and composition)? the government	0.00

The total score is 0.33, with an average of 0.08, which divided by five (the quantity of dimensions) gives **0.02** of score for this dimension.

E. Regulatory competencies

ANAC is the competent body to regulate in the civil aviation domain. CENIPA has only consultative competencies.

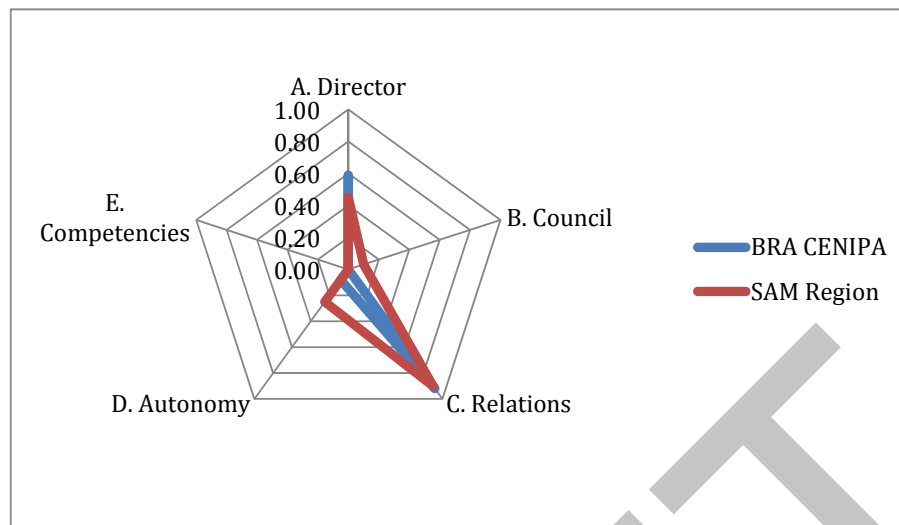
21. Which body is competent for regulation in the relevant domain? the agency has only consultative competencies	0.00
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The score applicable to the only indicator of this dimension and to the dimension itself is 0.00.

CENIPA's independence index

The sum of the score of the five dimensions gives a total score of **0.32** as the independence index of the Center for Investigation and Prevention of Aeronautical Accidents (CENIPA) of the Federative Republic of Brazil.

The independence index of the aircraft accident investigation authorities of the South American Region analyzed as at January 2017, reaches a score of 0.34 on average, with partial scores of 0.09, 0.02, 0.18, 0.05 and 0.00 for the five dimensions of the model, respectively, whose comparison with the marks obtained for the CENIPA of Brazil is shown in the following graph:



The independence index of **0.32** for the CENIPA of Brazil, establishes the baseline as of January 2017 to periodically measure the level of its institutional strength, seeking to increase it gradually, considering the importance of the institutional strengthening of the authorities for aviation safety in the South American region, associated with the ICAO's strategic objective of *enhance global civil aviation safety*.

Conclusions of the analysis

The institutional strength of Brazil's CENIPA reaches a 32% of the ideal level established by the Gilardi model, which measures the level of independence of the authorities with values ranging from 0 to 1, where 1 represents the highest level of independence and 0 a total dependency.

The conditions that would affect in a 68% the independence and, therefore, the institutional strength of Brazil's CENIPA can improve by adopting measures that allow to:

- a. Establish a management board at the direction level, with powers to appoint the chief of the agency and to support and increase the autonomy and independence of the authority in its decisions, as well as in the management of an organizational structure more appropriate for the development of its competencies;
- b. Establish that the chief of the agency be appointed by the management board for a term of 8 years or more, nonrenewable, without the possibility of dismissal except for legally prescribed reasons, that is prevented from holding other offices in government and that independence is a formal requirement for the appointment;
- c. Provide that the members of the first management board be appointed by the current chief of the agency;
- d. Establish that, subsequently, the members of the management board be appointed by the chief of the agency for a term of 8 years or more, non-renewable, without the possibility of dismissal except for legally prescribed reasons, that are prevented from holding other offices in government and that independence is a formal requirement for the appointment;
- e. Exempt the agency from formal obligations vis-à-vis the government;

- f. Finance its operation exclusively with resources coming from the industry and the users of its services, in order to eliminate its dependence on the general budget of the Nation;
- g. Exercise autonomously the control of its budget, the management of its internal organization and its personnel policy.

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Republic of Ecuador

Aeronautical legislation

The Political Constitution, international treaties and conventions ratified by the Republic, the Aeronautical Code, special laws and regulations on the subject, governs civil aeronautics in the Republic of Ecuador.

The basic civil aviation norms are:

- Law Reforming the Civil Aviation Law and the Aeronautical Code of April 5, 2006.
- Codification 2006-015 of the Aeronautical Code, dated November 23, 2006.
- Codification 2006-016 of the Civil Aviation Law, dated November 29, 2006.
- Executive Decree 1722 of May 6, 2009, approves the Regulations of the Accident Investigation Board of Ecuador.
- Decree 156 of November 20, 2013, partially amend the Civil Aviation Act, providing for the reorganization of the National Civil Aviation Council and the General Directorate of Civil Aviation.
- Civil Aviation Regulations (RDAC), national technical regulations issued and approved by resolution of the aeronautical authority in application of the standards and recommended practices in the ICAO Annexes.

Civil aviation system

The preliminary provisions of the Civil Aviation Act stipulate that corresponds to the State the planning, regulation and control of airports and civil air navigation in Ecuadorian territory, including the construction, operation and maintenance of aerodromes, airports and heliports of civilian use, and their services and facilities.

Article 2 of the Civil Aviation Act establishes that the State shall exercise its powers through the following agencies, which shall maintain the technical and operational control of the national aeronautical activity.

- **National Civil Aviation Council.** Entity of public law, autonomous, with legal personality, in charge of the aeronautical policy of the country, made up of three members:
 - a. A representative appointed by the President of the Republic, who for this purpose shall be the Minister of Transport and Public Works, who shall preside over it;
 - b. The Minister of Tourism; and
 - c. The Minister of Foreign Trade.
- **General Directorate of Civil Aviation.** It is a regulatory and oversight body for civil aviation activities in the country, which exercises the aeronautical authority and has, among its functions and responsibilities, to provide, operate and administer the airports, as well as the air navigation facilities and services in support of the national and international air transport operations. One of its main tasks is to formulate,

approve, promulgate and keep up to date the national civil aviation regulations (RDAC), supervising their implementation.

- **Accident Investigation Board.** Entity with legal status attached to the General Directorate of Civil Aviation, without prejudice to its operational and decision-making autonomy for the compliance with its function, designated by the National Civil Aviation Council as the authority for aircraft accident investigation. It is composed of a president, who will act permanently, and two members that will be integrated when the Board is summoned to know the result of the investigations of an accident of aircraft.

The independence index of the Accident Investigation Board (JIA) as the aircraft accident investigation authority of the Republic of Ecuador is analyzed below, applying the Gilardi model for the measurement.

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Accident Investigation Board (JIA) of the Republic of Ecuador

The aircraft accident investigation authority in Ecuador is the Accident Investigation Board, an entity empowered to investigate accidents in the country involving civil aircraft, and authority to participate in the investigation of accidents involving aircraft registered in Ecuador occurring in the territory of a foreign country, in accordance with any treaty, agreement or other arrangement with the country in whose territory the accident occurs.

The National Civil Aviation Council has the authority to appoint the President and members of the Accident Investigation Board (JIA), pursuant to Article 4 of the Civil Aviation Act.

Chapter VII of the same Law stipulates that the JIA is an entity with legal status, attached to the General Directorate of Civil Aviation, without prejudice to its operational and decision-making autonomy for the fulfillment of its function. It is composed of a president, who will act permanently, and two members that will be integrated when the JIA is summoned to know the result of the investigations of an accident of aircraft.

In an investigation, the JIA will have the informative collaboration of the General Directorate of Civil Aviation. The conclusions related to the causes of the accident will be taken without the interference or intervention of the aeronautical authorities. The Director General of Civil Aviation will issue regulations regarding the notification and reporting of accidents and incidents involving aircraft.

The costs of investigating aircraft accidents will be covered by the State, through the Ministry of Economy and Finance, and the operator, in equal parts.

The JIA Regulations determine that it will be designated by the National Civil Aviation Council, will be automatically activated after the occurrence of an accident or serious incident, and will remain in that condition until the investigation is concluded. The technical phase of the investigative process will be in charge of the flight safety investigators of the General Directorate of Civil Aviation and this entity will provide the JIA with secretarial staff for the proper development of its functions. These are:

- a) To promote safety in air transport;
- b) Investigate accidents involving public or private aircraft, determined according to the law and regulation;
- c) Formulate flight safety recommendations for air operators, the DGAC and private organizations;
- d) Analyze and formulate new techniques and methods of investigation of accidents; Y
- e) Prepare reports on the investigation of serious accidents or incidents.

Quantification of the JIA's independence

The analysis of legislation sustaining the establishment of the Accident Investigation Board of Ecuador, applying the Gilardi method adopted to quantify the independence of an authority, shows the following with respect to the five dimensions and 21 indicators that make up the model.

A. Status of the agency head

The President of the Accident Investigation Board and its members are appointed by the National Civil Aviation Council, as assigned by Article 4 of the Civil Aviation Act. The provisions of this law and those of the Rules of Procedure of the JIA, do not establish the conditions concerning the duration of the office, revocation and renewal of the appointment.

Article 7 of the Regulations stipulates that the JIA shall be composed of a President who shall act permanently, and two members who shall be integrated when it is convened, from which it follows that the President could not hold other positions in the government.

Section k) of Article 4 of the Civil Aviation Act states that the President and members of the Board shall have extensive experience in commercial aviation and may not have assets or hold any legal representation, administration or advisory functions in national or foreign airlines operating in the country, thereby establishing its independence.

Consequently, the applicable score to each indicator of this dimension is as follows:

1. Term of office no fixed term	0.00
2. Who appoints the agency head? one or two ministers	0.00
3. Dismissal there are no specific provisions for dismissal	0.33
4. May the agency head hold other offices in government? yes/no specific provisions	0.00
5. Is the appointment renewable? no	1.00
6. Is independence a formal requirement for the appointment? yes	1.00

The total score is 2.33, with an average of 0.39, which divided by five (the quantity of dimensions) gives **0.08** of score for this dimension.

B. Status of the members of the management board

The JIA's organic structure does not include a management board. For this reason, the score applicable to the indicators of this dimension (7. to 12.) and to the dimension itself is **0.00**.

C. Relationship with government and parliament

The independence of the JIA is formally established by Article 12 of the Civil Aviation Act, which stipulates that it is an entity with legal status, attached to the General Directorate of Civil Aviation, without prejudice to its operational and decision-making autonomy for the fulfillment of its function.

The JIA does not have formal obligations vis-à-vis the government and parliament and no body are identified that can overturn the decisions that it adopts where it has exclusive competence, other than a court.

Consequently, the applicable score to each indicator of this dimension is as follows:

13. Is the independence of the agency formally stated? yes	1.00
14. What are the formal obligations of the agency vis-à-vis the government? there are no formal obligations	1.00
15. What are the formal obligations of the agency vis-à-vis the parliament? there are no formal obligations	1.00
16. Which body, other than a court, can overturn the decisions of the agency where the latter has exclusive competence? no body	1.00

The total score is 4.00, with an average of 1.00, which divided by five (the quantity of dimensions) gives **0.20** of score for this dimension.

D. Financial and organizational autonomy

Article 20 of the Civil Aviation Act states that the costs of investigating aircraft accidents will be covered by the State through the Ministry of Economy and Finance, and the operator, in equal parts.

Paragraph 1/h of Article 6 of the same Law stipulates that it is the duty of the Director General of Civil Aviation to control the correct collection and investment of the funds and administer them in accordance with the law and the budget duly approved by the competent organs.

It is the attribution of the National Civil Aviation Council, established in Article 4 of the Civil Aviation Law, to decide on the organization of the JIA, as indicated in Article 14 of the same standard.

The personnel policy of the JIA is determined by the government, in accordance with the provisions of Article 7 of the Regulations.

Consequently, the applicable score to each indicator of this dimension is as follows:

17. What is the source of the agency's budget? both the government and fees levied on the regulated industry	0.50
18. How is the budget controlled? by the agency	1.00
19. Which body decides on the agency's internal organization? the government	0.00
20. Which body is in charge of the agency's personnel policy (hiring and firing staff, deciding on its allocation and composition)? the government	0.00

The total score is 1.50, with an average of 0.38, which divided by five (the quantity of dimensions) gives **0.08** of score for this dimension.

E. Regulatory competencies

JIA has only consultative competencies.

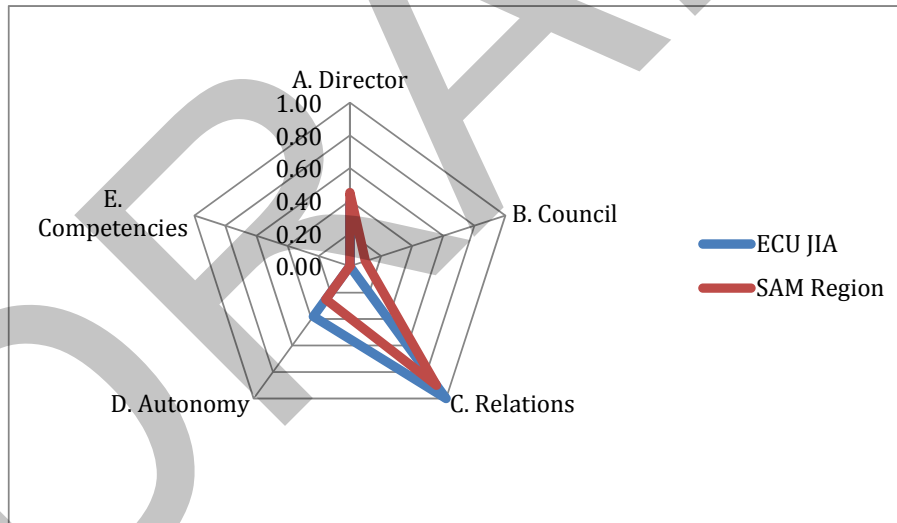
21. Which body is competent for regulation in the relevant domain? the agency has only consultative competencies	0.00
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The score applicable to the only indicator of this dimension and to the dimension itself is **0.00**.

JIA's independence index

The sum of the score of the five dimensions gives a total score of **0.36** as the independence index of the Accident Investigation Board of the Republic of Ecuador.

The independence index of the aircraft accident investigation authorities of the South American Region analyzed as at January 2017, reaches a score of 0.34 on average, with partial scores of 0.09, 0.02, 0.18, 0.05 and 0.00 for the five dimensions of the model, respectively, whose comparison with the marks obtained for the JIA of Ecuador is shown in the following graph:



The independence index of **0.36** for the JIA of Ecuador, establishes the baseline as of January 2017 to periodically measure the level of its institutional strength, seeking to increase it gradually, considering the importance of the institutional strengthening of the authorities for aviation safety in the South American region, associated with the ICAO's strategic objective of *enhance global civil aviation safety*.

Conclusions of the analysis

The institutional strength of the JIA of Ecuador reaches a 36% of the ideal level established by the Gilardi model, which measures the level of independence of the authorities with values

ranging from 0 to 1, where 1 represents the highest level of independence and 0 a total dependency.

The conditions that would affect in a 64% the independence and, therefore, the institutional strength of the JIA of Ecuador can improve by adopting measures that allow to:

- a. Establish a management board at the direction level, with powers to appoint the President and to support and increase the autonomy and independence of the Board in its decisions, as well as in the management of an organizational structure more appropriate for the development of its competencies;
- b. Establish that the President be appointed by the management board for a term of 8 years or more, nonrenewable, without the possibility of dismissal except for legally prescribed reasons and that is prevented from holding other offices in government;
- c. Provide that the members of the first management board be appointed by the current President of JIA;
- d. Establish that, subsequently, the members of the management board be appointed by the President for a term of 8 years or more, non-renewable, without the possibility of dismissal except for legally prescribed reasons, that are prevented from holding other offices in government and that independence is a formal requirement for the appointment;
- e. Increase the collection of revenues generated by its services, in order to eliminate its dependence on public funds;
- f. Exercise autonomously the management of its internal organization and personnel policy;
- g. Establish its website, showing information on the aeronautical legislation that supports it and the description of its origin, organizational structure and functions.

Eastern Republic of Uruguay

Aeronautical legislation

Civil aeronautical activity and air transport in the Eastern Republic of Uruguay are governed by the Constitution of the Republic and the following norms:

- Law 9.977 of December 19, 1940, establishes subsidies, franchises and resources for the promotion of civil aviation.
- Law 12.018 of November 4, 1953, ratifies the Chicago Convention signed on December 7, 1944.
- Law 14.305 of November 29, 1974, Aeronautical Code.
- Decree 39/77 of January 25, 1977, on air transport.
- Law 14.747 of December 28, 1977, organic law of the Air Force.
- Decree 21/999 of January 26, 1999, regulating the operation and organization of the National Directorate of Civil Aviation and Aeronautical Infrastructure (DINACIA).
- Decree 507/002 of December 31, 2002, reformulation of the organizational structure of the DINACIA.
- Decree 267/03 of July 1, 2003, national civil aviation safety program.
- Resolution 1808/003 of December 12, 2003, delegate powers of the Executive to the National Directorate of Civil Aviation and Aeronautical Infrastructure.
- Decree 267/006 of August 9, 2006, creates the National Civil Aeronautics Board (JNAC).
- Decree 213/007 of July 20, 2007, regulation of the JNAC.
- Law 18.619 of October 23, 2009, on civil aviation safety and creation of the Aircraft Accident and Incident Investigation Commission (CIAIA).
- Decree 160 of May 24, 2013, regulation of the CIAIA.
- Decree 287/014 of October 9, 2014, aeronautical policy guidelines.
- Law 19.355 of December 19, 2015, budget of the Republic 2015-2019.
- Resolution 270/2016 of June 9, 2016, modifies the organic structure of the DINACIA incorporating the position of Director of the SSP Office.
- Uruguayan Aeronautical Regulations (RAU), a set of national technical regulations issued and approved by the aeronautical authority in application of the standards and recommended practices in the ICAO Annexes.

Civil aviation system

The government agencies that make up the civil aviation system of Uruguay are:

National Directorate of Civil Aviation and Aeronautical Infrastructure (DINACIA). This agency depends on the Commander-in-Chief of the Uruguayan Air Force as per Decree Law 14.747 of December 28, 1977. The DINACIA was created with the merger of the General Directorate of Civil Aviation and the General Directorate of Aeronautical Infrastructure and was established by the Decree 21/999 of January 26, 1999 as the aeronautical authority to which the Aeronautical Code and the other norms on the matter refer. The DINACIA has the mission of executing the civil aeronautical policy in accordance with the current regulations and recommendations issued by the competent international organizations, continuously supervising operational safety and exercising

the direction and control of civil aeronautical activities. It must provide a safe, regular and efficient system of air navigation infrastructure and services throughout the national territory and airspace, prioritizing excellence in services provided to users and also ensuring the safety, regularity and efficiency of aeronautical operations and of services in accordance with the international standards and recommended practices on the matter.

Aircraft Accident and Incident Investigation Commission (CIAIA). Created by Law 18.619 of October 23, 2009, it operates in the orbit of the Ministry of National Defense with absolute technical autonomy, being the competent body in the investigation of accidents and serious incidents of aviation in accordance with the provisions of articles 92 to 101 of the Aeronautical Code, having also as its tasks to determine its probable causes and issue the necessary safety recommendations to avoid their repetition. Its composition and operation are subject to the corresponding regulations.

National Civil Aeronautics Board (JNAC). It was created by Decree 267/006 of August 9, 2006 in the orbit of the Ministry of Transport and Public Works, with the duties of advising the Executive Power regarding the determination and execution of the policy of public air transport services, representing the Republic in the international negotiations with the advice of the DINACIA in the elaboration of agreements or conventions related to the air transport services, being the Uruguayan counterpart in the bilateral or multilateral negotiations. Through the aeronautical authority, it supervises the compliance with the provisions and directives issued by the Executive Power on the matter and promotes and carries out studies aimed at developing plans and programs for the better development of air transport services, in a coordinated ambit of technical and political aspects.

General Directorate of Air Transport. Dependant on the National Transport Directorate of the Ministry of Transport and Public Works, its objective is to evaluate the competencies associated with the aerial commercial policy, such as those aimed at improving the regime of concessions and authorizations, the rights of users, the tariff system and the relationship of the Republic with other countries and international organizations. Its activities are aimed at proposing policies and development projects related to national and international air transport, providing evidence for the study of compliance with air transport services, advising the Ministry on the formulation of air transport policies, updating and adaptation of regulations in relation to air transport services including user rights, implementation of bilateral and multilateral agreements and coordination with the National Civil Aeronautics Board.

The independence index of the Aircraft Accident and Incident Investigation Commission (CIAIA) as the aircraft accident investigation authority of the Eastern Republic of Uruguay is analyzed below, applying the Gilardi model for the measurement.

Aircraft Accident and Incident Investigation Commission (CIAIA) of the Eastern Republic of Uruguay

Article 14 of Law 18.619 of 2009 on the safety of civil aeronautics, established the creation of the Aircraft Accident and Incident Investigation Commission, to operate in the orbit of the Ministry of National Defense with absolute technical autonomy, being the competent body for the investigation of accidents and serious aviation incidents in accordance with the provisions of articles 92 to 101 of the Aeronautical Code, having also as additional tasks to determine their probable causes and issue the necessary safety recommendations to avoid their repetition.

Decree 160/013 of 2013 regulated the integration and operation of the CIAIA, stating that it will have full independence with respect to the aeronautical authority, airport authorities, air traffic and any other whose interests could conflict with the mission entrusted to it.

The CIAIA will be composed of the following organs:

- a. Director,
- b. Secretary,
- c. Permanent Technical Office and
- d. Accident Investigation Boards.

In addition, the regulation provides that the Commission shall have permanent members, to which shall be added the temporary members that are necessary during the course of the investigation of one or more air accidents, who shall be appointed by the Minister of National Defense.

Permanent members shall be persons of recognized technical competence in aeronautical matters, have specific training in aircraft accident and incident investigation and, in particular, the Director shall be a pilot with extensive flight experience.

The Commission may also be integrated with other specialists as temporary members when the volume, nature or severity of the investigations so require, who must have recognized technical competence in the matter that motivates their designation.

The Ministry of National Defense will ensure that it provides the CIAIA with the human, material and financial resources necessary to carry out its function, and may allocate or redistribute them within those already existing in the portfolio.

The CIAIA is responsible for the following functions:

- a. Investigate accidents and incidents of civil aviation to determine their causes and make recommendations in order to take the necessary measures to avoid their repetition.
- b. Practice the precise actions to complete the technical investigation and elaborate reports on the accidents and incidents in accordance with the established in the norms and regulations applicable on the matter.

Quantification of the CIAIA's independence

The analysis of legislation sustaining the establishment of the Aircraft Accident and Incident Investigation Commission of Uruguay, applying the Gilardi method adopted to quantify the independence of an authority, shows the following with respect to the five dimensions and 21 indicators that make up the model.

A. Status of the agency head

Article 8 of Decree 160 states that the CIAIA will have a Director and it is inferred that the Minister of National Defense appoints it. The rule does not include provisions on term of office, dismissal, renewal of appointment, and whether may hold other offices in government. The conditions for the designation referred to in Article 9 determine that independence is a formal requirement for the appointment.

Consequently, the applicable score to each indicator of this dimension is as follows:

1. Term of office no fixed term	0.00
2. Who appoints the agency head? one or two ministers	0.00
3. Dismissal there are no specific provisions for dismissal	0.33
4. May the agency head hold other offices in government? yes/no specific provisions	0.00
5. Is the appointment renewable? yes, more than once	0.00
6. Is independence a formal requirement for the appointment? yes	1.00

The total score is 1.33, with an average of 0.22, which divided by five (the quantity of dimensions) gives **0.04** of score for this dimension.

B. Status of the members of the management board

Decree 160 includes the Accident Investigation Boards in the organizational structure of the CIAIA provided by Article 8, as one of its constituent bodies, which will be "ad hoc", as many as necessary, will depend on the Director of the CIAIA, will be in charge of an investigator and integrated with at least one secretary, the investigators and advisers that are necessary.

According to Article 9, there will be permanent members, to which will be added the temporary members that are necessary, who will be appointed by the Minister of National Defense. The permanent members shall be persons of recognized technical competence in aeronautical matters and shall have specific training in the investigation of aviation accidents and incidents. In addition, in particular, the Director will be a pilot with extensive flight experience. This determines that independence is a formal requirement for appointments.

The rule does not include provisions on term of office, dismissal, renewal of the appointments, and whether may hold other positions in the government.

Consequently, the applicable score to each indicator of this dimension is as follows:

7. Term of office		
no fixed term		0.00
8. Who appoints the members of the management board?		
one or two ministers		0.00
9. Dismissal		
there are no specific provisions for dismissal		0.33
10. May the members of the management board hold other offices in government?		
yes/no specific provisions		0.00
11. Is the appointment renewable?		
no		1.00
12. Is independence a formal requirement for the appointment?		
yes		1.00

The total score is 2.33, with an average of 0.39, which divided by five (the quantity of dimensions) gives **0.08** of score for this dimension.

C. Relationship with government and parliament

Article 3 of Decree 160/2013 stipulates that the CIAIA shall have full independence with respect to the aeronautical authority, airport authorities, air traffic and any other whose interests may conflict with the mission entrusted to it. Article 7 establishes that the final report of the CIAIA on accidents and incidents will be submitted by the Director of the Commission directly to the Minister of National Defense, who will give the final reports the widest dissemination, being published on the website of the Ministry.

The CIAIA does not have formal obligations vis-à-vis the government and no body are identified that can overturn the decisions that it adopts where it has exclusive competence, other than a court.

Consequently, the applicable score to each indicator of this dimension is as follows:

13. Is the independence of the agency formally stated?		
yes		1.00
14. What are the formal obligations of the agency vis-à-vis the government?		
the agency is fully accountable to the government		0.00
15. What are the formal obligations of the agency vis-à-vis the parliament?		
there are no formal obligations		1.00
16. Which body, other than a court, can overturn the decisions of the agency where the latter has exclusive competence?		
no body		1.00

The total score is 3.00, with an average of 0.75, which divided by five (the quantity of dimensions) gives **0.15** of score for this dimension.

D. Financial and organizational autonomy

Article 11 of Decree 160 of 2013, Regulation of the CIAIA, stipulates that the Ministry of National Defense will ensure that it provides the CIAIA with the human, material and financial resources necessary to carry out its function, and may allocate or redistribute them within those already existing in the portfolio.

By means of Article 142 of Law 19.355 of 2015, Budget of the Republic 2015-2019, the sum of six hundred and fifty thousand Uruguayan pesos per year is reassigned, of the total of the proceeds for the flight protection and for the use of air navigation facilities and services, for operating and investment expenses of the Aircraft Accident and Incident Investigation Commission created by Article 14 of Law 18.619 of 2009.

The rules do not indicate how the budget of the CIAIA is controlled, but Article 228 of the Constitution establishes that the supervision in the execution of the budgets and the control function of all management related to public finances will be in charge of the Court of Auditors.

Article 8 of Decree 160 of 2013 stipulates that the CIAIA shall be composed of the following organs: Director, Secretariat, Permanent Technical Office and Accident Investigation Boards. The latter will be "ad hoc", as many as necessary, will depend on the Director of the CIAIA, will be in charge of an investigator and integrated with at least one secretary and the investigators plus the advisers that are necessary.

Article 9 of Decree 160 establishes that there will be permanent members, to which will be added the temporary members that will be necessary during the course of the investigation of one or more air accidents, who shall be appointed by the Minister of National Defense. The Commission may also be integrated with other specialists as temporary members when the volume, nature or severity of the investigations so require.

Consequently, the applicable score to each indicator of this dimension is as follows:

17.	What is the source of the agency's budget? both the government and fees levied on the regulated industry	0.50
18.	How is the budget controlled? by the accounting office or court	0.67
19.	Which body decides on the agency's internal organization? the government	0.00
20.	Which body is in charge of the agency's personnel policy (hiring and firing staff, deciding on its allocation and composition)? the government	0.00

The total score is 1.17, with an average of 0.29, which divided by five (the quantity of dimensions) gives **0.06** of score for this dimension.

E. Regulatory competencies

The CIAIA has only consultative competencies.

21. Which body is competent for regulation in the relevant domain?
the agency has only consultative competencies

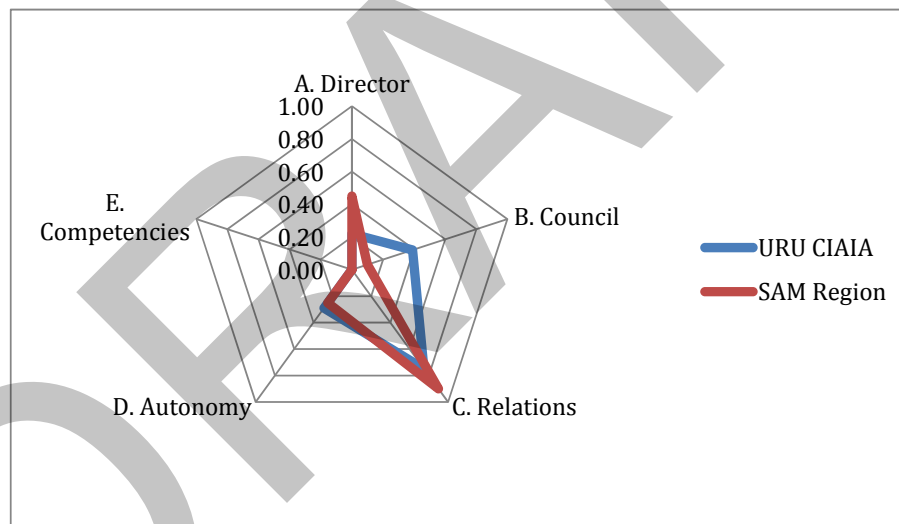
0.00

The score applicable to the only indicator of this dimension and to the dimension itself is 0.00.

CIAIA's independence index

The sum of the score of the five dimensions gives a total score of **0.33** as the independence index of the Aircraft Accident and Incident Investigation Commission of the Eastern Republic of Uruguay.

The independence index of the aircraft accident investigation authorities of the South American Region analyzed as at January 2017, reaches a score of 0.34 on average, with partial scores of 0.09, 0.02, 0.18, 0.05 and 0.00 for the five dimensions of the model, respectively, whose comparison with the marks obtained for the CIAIA of Uruguay is shown in the following graph:



The independence index of **0.33** for the CIAIA of Uruguay, establishes the baseline as of January 2017 to periodically measure the level of its institutional strength, seeking to increase it gradually, considering the importance of the institutional strengthening of the authorities for aviation safety in the South American region, associated with the ICAO's strategic objective of *enhance global civil aviation safety*.

Conclusions of the analysis

The institutional strength of the CIAIA of Uruguay reaches a 33% of the ideal level established by the Gilardi model, which measures the level of independence of the authorities with values ranging from 0 to 1, where 1 represents the highest level of independence and 0 a total dependency.

The conditions that would affect in a 67% the independence and, therefore, the institutional strength of the CIAIA of Uruguay can improve by adopting measures that allow to:

- a. Grant the Commission the power to appoint the Director;
- b. Establish that the Director be appointed by the Commission for a term of 8 years or more, nonrenewable, without the possibility of dismissal except for legally prescribed reasons and that is prevented from holding other offices in government;
- c. Grant the Director currently in office the power to appoint the next permanent members of the Commission;
- d. Establish that, subsequently, the permanent members of the Commission be appointed by the Director for a term of 8 years or more, nonrenewable, without the possibility of dismissal except for legally prescribed reasons and that are prevented from holding other offices in government;
- e. Exempt the Commission from formal obligations vis-à-vis the government;
- f. Finance its operation exclusively with resources coming from the industry;
- g. Establish that will assume autonomously the control of its budget, the management of its internal organization and personnel policy;
- h. Establish an independent website of the CIAIA, showing information about the legislation that supports it and the description of its origin, organic structure, functions and products.

Bolivarian Republic of Venezuela

Aeronautical legislation

Civil aeronautical activity and air transport in the Bolivarian Republic of Venezuela are governed by the Constitution of the Republic, the conventions signed by Venezuela with international organizations on civil aviation and air transport matters and the following norms:

- Law of the Maiquetia International Airport Institute, Official Gazette 29.585 of August 16, 1971.
- Law of the Public Function Statute, G.O. 37.522 of September 6, 2002.
- Law of the National Institute of Civil Aeronautics, G.O. 38.333 of December 12, 2005.
- Law of partial reform of the Law of Civil Aeronautics, G.O. 39.140 dated March 17, 2009.
- Law on Social and Integral Politics of Air Transport, G.O. 5.933 Extraordinary of October 21, 2009.
- Decree 8.559 G.O. 39.791 of November 2, 2011, created the Ministry of People's Power for Aquatic and Air Transport.
- Decree 8.615 G.O. 39.806 of November 23, 2011, Organic Regulation of the Ministry of People's Power for Aquatic and Air Transport.
- Decree 8.956 G.O. 39.916 of May 7, 2012, attachment of the INAC to the Ministry of People's Power for Aquatic and Air Transport.
- Decree 730 G.O. 40.330 of January 9, 2014, creates the offices of the deputy ministers of the various ministries of People's Power.
- Decree 1.424 G.O. 6.147 Extraordinary of November 17, 2014, Decree with rank, value and force of Organic Law of Public Administration.
- Decree 1.612 G.O. 6.173 Extraordinary of February 18, 2015, on general organization of the national public administration.
- Decree 2.181 G.O. 40.822 of January 6, 2016, establishes the Ministry of People's Power for Transport and Public Works.
- Decree 2.378 G.O. Extraordinary 6.238 of July 13, 2016, general organization of the national public administration.
- Decree 2.650 G.O. 41.067 of January 4, 2017, created the Ministry of People's Power for Transportation.
- Venezuelan Aeronautical Regulations, set of national technical regulations issued and approved by the aeronautical authority in application of the standards and recommended practices in the ICAO Annexes.

Civil aviation system

The following bodies are part of the civil aviation system of the Bolivarian Republic of Venezuela:

Ministry of People's Power for Transport

Decree 2.650 of the Presidency of the Republic, published in the Official Gazette 41.067 of January 4, 2017, creates the Ministry of People's Power for Transport, establishing that it is within its competence regarding the integrated and multimodal transport

system; the infrastructure, equipment, functionality of the movement system, facilities and related services of the national terrestrial, aquatic and aerial transport; the passenger transport in general; as well as the general conditions of service, the regulations and the approval of the rates and freight of the transport activities and services. The following entities are attached to this Ministry: National Institute of Civil Aeronautics (INAC), Maiquetia International Airport Institute (IAIM), Bolivarian of Airports (BAER), Venezuelan Consortium of Aeronautical Industries and Air Services S.A. (CONVIASA) and Aeropostal (Alas de Venezuela).

National Aeronautical Council

Article 10 of the Civil Aeronautics Law Reform Act of March 17, 2009, created the National Aeronautical Council as an advisory and collegiate body empowered to advise, coordinate and recommend to the public administration the formulation of aeronautical policies, so that they are in accordance with the general guidelines of the Republic. Its operation, organization and attributions will be regulated, in accordance with the established by the National Executive, in conformity with the provisions of the Organic Law of Public Administration and all its decisions will have a binding character.

National Institute of Civil Aeronautics (INAC)

Article 9 of the Civil Aeronautics Law Reform Act of March 17, 2009, establishes that the aeronautical authority of the Republic is the National Institute of Civil Aeronautics and will be exercised by its President and other officials. The INAC is a State security body, of a technical nature, endowed with legal personality and own assets, distinct and independent of the national public finances, with technical, financial, organizational and administrative autonomy. It is responsible for regulating and supervising the civil aeronautical activities, issuing or validating certificates, permits or licenses, create the technical coordination committee that requires the dynamics of aviation, as well as carry out intervention procedures.

Article 14 of the same Law stipulates that the permanent oversight of air safety and protection of civil aviation by the aeronautical authority is exercised over all aeronautical activities by means of the supervisory function, in order to ensure that international safety and security standards are observed. In the exercise of its functions, the aeronautical authority will have immediate access to the places where aeronautical activities, relating or supporting, are carried out, and those who prevent it will be sanctioned according to law.

Maiquetia International Airport Institute (IAIM)

The Law of the IAIM published in the Official Gazette 29.585 of August 16, 1971, creates an autonomous institute that will be called the Maiquetia International Airport Institute, attached to the Ministry of Communications, with legal personality and own assets, distinct and independent from the National Treasury. The competence, organization and operation of the IAIM and its dependencies shall be governed by the Law and by the respective regulations. It is in charge of construct, condition, maintain, develop, manage and operate the works and facilities of the Maiquetia International Airport for civil air transport; continuously improve services based on safety, regularity and efficiency; supervise and coordinate the functions and services provided at the airport; foster the recovery of the investments obtaining sufficient benefits to cover the expenses and to repay the invested capital, among other functions.

Directorate General for the Prevention and Investigation of Air Accidents (DGPIAA)

Established as Venezuela's aircraft accident investigation authority, the DGPIAA acts in the orbit of the Ministry of Transport, independently of the aeronautical authority and any other authority or body of the sub-sector. Its objective is to analyze and to investigate administratively the aeronautical accidents and incidents, as well as to implement the corrective actions to avoid their repetition, establishing the probable causes and contributing factors, without determining guilt or responsibility. The task is developed in accordance with the standards and recommended practices in Annex 13 to the Chicago Convention on *Aircraft Accident and Incident Investigation*.

Bolivarian of Airports S. A. (BAER)

State enterprise created with authorization of the National Executive by Decree 6.646 of 2009, operates in accordance with its Statutory Constitutive Act. In accordance with Article 2 of Decree 6.646, BAER's purpose is to prepare, maintain, develop, manage, exploit and take advantage of the set of facilities, goods and services that comprise the civil aeronautical infrastructure owned by the Republic, in order to guarantee the air traffic with safety, fluidity, efficiency, economy and quality for the benefit of the community. It is attached to the Ministry of People's Power for Transport and manages 22 airports in 12 states.

Venezuelan Consortium of Aeronautical Industries and Air Services, S. A. (CONVIASA)

The government authorized the creation of this state enterprise through Decree 2.866 of 2004, in the form of a corporation. Its purpose is the exploitation of the public national and international commercial air transport service, regular and non-regular, of passengers, cargo and mail. In addition, it may carry out activities of purchase, sale, exchange, lease or manufacture of aircraft, facilities, infrastructure, real estate and transportation equipment, among others. CONVIASA is the Venezuelan flag airline and is attached to the Ministry of Transport.

Aeropostal (Alas de Venezuela)

Venezuelan airline founded on July 3, 1929, Aeropostal has gone through different stages of success and failure in its corporate performance, alternately between the private and public sectors, until it was acquired by the State as a public enterprise, currently attached to the Ministry of Transport. The airline provides commercial air transport services of passengers, cargo and mail in the national and international scope, fulfilling the legal requirements in force and the rules and standards applicable to the exercise of its activity.

The independence index of the Directorate General for the Prevention and Investigation of Air Accidents (DGPIAA) as the aircraft accident investigation authority of the Bolivarian Republic of Venezuela is analyzed below, applying the Gilardi model for measurement.

Directorate General for the Prevention and Investigation of Air Accidents of the Bolivarian Republic of Venezuela (DGPIAA)

The Directorate-General for the Prevention and Investigation of Air Accidents is the Venezuelan aircraft accident investigation authority and acts in the orbit of the Ministry of Transport independently of the aeronautical authority and any other authority or body in the aeronautical sector. Its objective is to analyze and investigate administratively the aircraft accidents and incidents, as well as to implement corrective actions to avoid their repetition, determining the probable causes and contributing factors, excluding conclusions about fault or responsibility. The task is developed in accordance with the standards and recommended practices in Annex 13 to the Chicago Convention on *Aircraft Accident and Incident Investigation*.

The organization and functioning of the Venezuelan public administration is in the process of reorganization, initiated with the new ministerial structure provided by Decree 2.650 of January 4, 2017, which created the Ministry of People's Power for Transport. The regulatory provisions approving the reorganization could restore or modify the dependency, organizational structure and operating structure of the aircraft accident investigation authority.

The organizational structure of the authority, dependent on the ministerial level, was made up as follows:

- General directorate
 - a. Technical audit
 - b. Aeronautical advisers
 - c. Administrative support unit
 - d. Legal advice
- A. Accident prevention directorate
- B. Accident investigation directorate.

The authority had to perform the following functions:

1. Notify to whom it corresponds the occurrence of an accident or serious incident.
2. Carry out the investigation of civil aviation accidents and incidents.
3. Determine the probable causes of the accidents and incidents investigated and issue the recommendations that correspond with the timely publication of the report.
4. Carry out the follow-up of actions taken by the recipients of the recommendations issued, in order to prevent the future occurrence of similar accidents or incidents.
5. Maintain relations with ICAO and with the civil aviation accident investigation agencies of the international aviation community.
6. Request the support of the personnel of public and private organizations, and integrate it, when necessary, in order to constitute the equipment required by the circumstances of each case.
7. Keep the statistical record of data on civil aviation accidents and incidents.
8. Publish and disseminate, as a contribution to air safety, reports and statistics relating to civil aviation accidents and incidents and comments thereon.
9. Conduct courses for the training of personnel specialized in the investigation of aircraft accidents and propose personnel for specialization courses.

Quantification of the DGPIAA's independence

The analysis of legislation sustaining the establishment of the Directorate General for the Prevention and Investigation of Air Accidents of Venezuela, applying the Gilardi method adopted to quantify the independence of an authority, shows the following with respect to the five dimensions and 21 indicators that make up the model.

A. Status of the agency head

The President of the Republic as provided by the Constitution appoints the General Director of the DGPIAA. There are no provisions on the term of office and the conditions of appointment. Due to the nature of the service, independence is a requirement to direct it.

Consequently, the applicable score to each indicator of this dimension is as follows:

1. Term of office no fixed term	0.00
2. Who appoints the agency head? the government collectively	0.25
3. Dismissal there are no specific provisions for dismissal	0.33
4. May the agency head hold other offices in government? yes/no specific provisions	0.00
5. Is the appointment renewable? no	1.00
6. Is independence a formal requirement for the appointment? yes	1.00

The total score is 2.58, with an average of 0.43, which divided by five (the quantity of dimensions) gives **0.09** of score for this dimension.

B. Status of the members of the management board

The DGPIAA's organic structure does not include a management board. For this reason, the score applicable to the indicators of this dimension (7. to 12.) and to the dimension itself is **0.00**.

C. Relationship with government and parliament

The independence of the authority has not been formally established.

The DGPIAA does not have formal obligations vis-à-vis the government and the parliament and no body are identified that can overturn the decisions that it adopts where it has exclusive competence, other than a court.

Consequently, the applicable score to each indicator of this dimension is as follows:

13. Is the independence of the agency formally stated? no	0.00
14. What are the formal obligations of the agency vis-à-vis the government? there are no formal obligations	1.00
15. What are the formal obligations of the agency vis-à-vis the parliament? there are no formal obligations	1.00
16. Which body, other than a court, can overturn the decisions of the agency where the latter has exclusive competence? no body	1.00

The total score is 3.00, with an average of 0.75, which divided by five (the quantity of dimensions) gives **0.15** of score for this dimension.

D. Financial and organizational autonomy

The government finances the budget of the authority and controls it. Also decides on its organization and takes care of its personnel policy.

Consequently, the applicable score to each indicator of this dimension is as follows:

17. What is the source of the agency's budget? the government	0.00
18. How is the budget controlled? by the government only	0.00
19. Which body decides on the agency's internal organization? the government	0.00
20. Which body is in charge of the agency's personnel policy (hiring and firing staff, deciding on its allocation and composition)? the government	0.00

The score applicable to all indicators of this dimension and to the dimension itself is **0.00**.

E. Regulatory competencies

INAC is the competent body to regulate in the civil aviation domain. The DGPIAA has only consultative competencies.

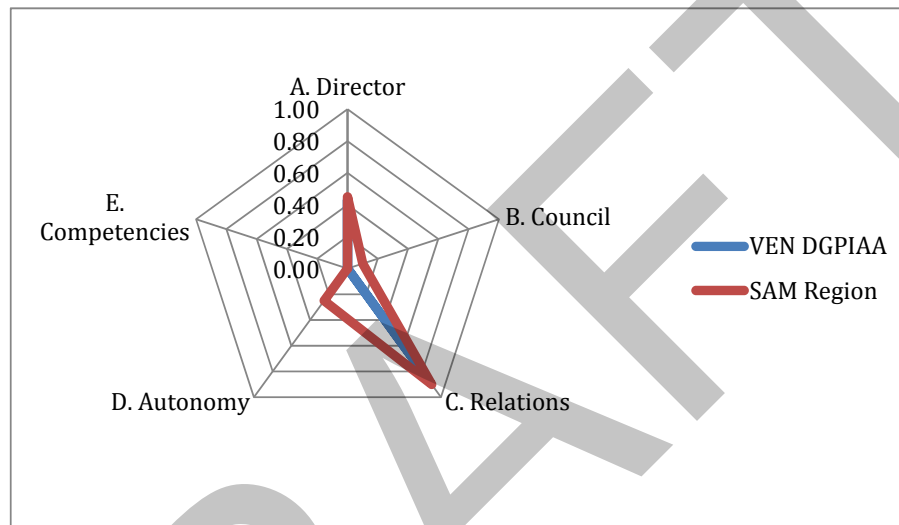
21. Which body is competent for regulation in the relevant domain? the agency has only consultative competencies	0.00
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The score applicable to the only indicator of this dimension and to the dimension itself is 0.00.

DGPIAA's independence index

The sum of the score of the five dimensions gives a total score of **0.24** as the independence index of the Directorate General for the Prevention and Investigation of Air Accidents of the Bolivarian Republic of Venezuela.

The independence index of the aircraft accident investigation authorities of the South American Region analyzed as at January 2017, reaches a score of 0.34 on average, with partial scores of 0.09, 0.02, 0.18, 0.05 and 0.00 for the five dimensions of the model, respectively, whose comparison with the marks obtained for the DGPIAA of Venezuela is shown in the following graph:



The independence index of **0.24** for the DGPIAA of Venezuela, establishes the baseline as of January 2017 to periodically measure the level of its institutional strength, seeking to increase it gradually, considering the importance of the institutional strengthening of the authorities for aviation safety in the South American region, associated with the ICAO's strategic objective of *enhance global civil aviation safety*.

Conclusions of the analysis

The institutional strength of the DGPIAA of Venezuela reaches a 24% of the ideal level established by the Gilardi model, which measures the level of independence of the authorities with values ranging from 0 to 1, where 1 represents the highest level of independence and 0 a total dependency.

The conditions that would affect in a 76% the independence and, therefore, the institutional strength of the DGPIAA of Venezuela can improve by adopting measures that allow to:

- a. Establish a management board at the direction level, with powers to appoint the Director General and to support and increase the autonomy and independence of the authority in its decisions, as well as in the management of an organizational structure more appropriate for the development of its competencies;

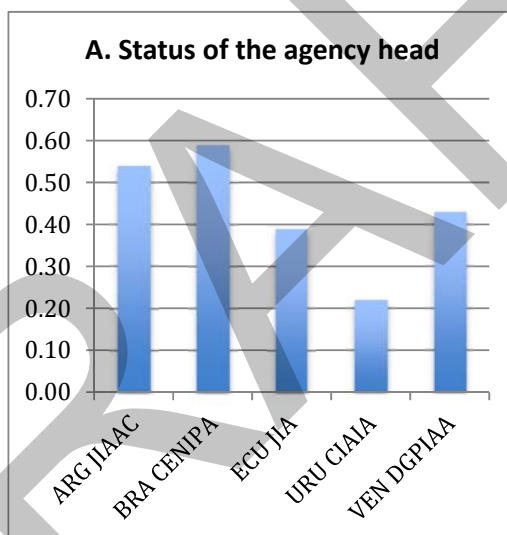
- b. Establish that the Director General be appointed by the management board for a term of 8 years or more, nonrenewable, without the possibility of dismissal except for legally prescribed reasons, that is prevented from holding other offices in government and that independence is a formal requirement for the appointment;
- c. Provide that the members of the first management board be appointed by the current Director General;
- d. Establish that, subsequently, the members of the management board be appointed by the Director General for a term of 8 years or more, non-renewable, without the possibility of dismissal except for legally prescribed reasons, that are prevented from holding other offices in government and that independence is a formal requirement for the appointment;
- e. Formally establish the independence of the authority;
- f. Provide that the authority finance its operation with the fees and income for the provision of its services, to be collected from the industry and other recipients thereof, in order to eliminate its dependence on public funds;
- g. Exercise autonomously the control of its budget;
- h. Decide on its internal organization and take charge of its personnel policy;
- i. Establish an independent website of the DGPIAA, showing information on the legislation that supports it and the description of its origin, organic structure, functions and products.

Analysis of the independence of the authorities studied

The study has been based on the available public information on the legal bases that sustain the establishment and performance of 5 aircraft accident investigation authorities of the South American Region.

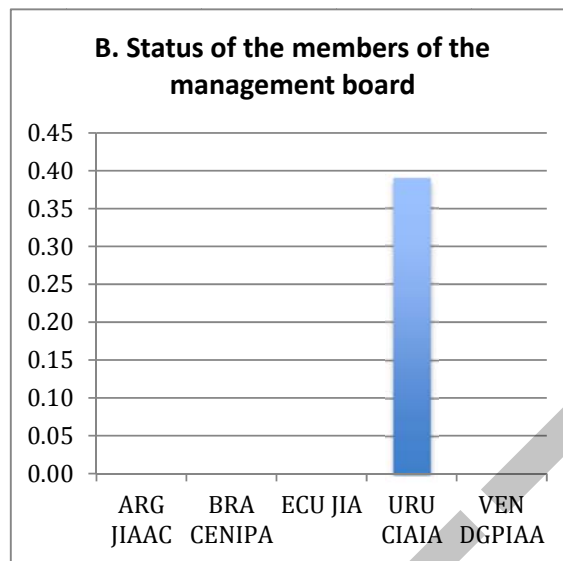
The objective was to analyze the situation of the authorities with respect to the five dimensions of the Gilardi model chosen for their measurement and to establish, based on the general score obtained, a baseline to periodically verify the independence index that defines the institutional strength of each authority.

The results obtained are then presented with the graphical synthesis of the independence index obtained by the authorities with respect to each of the five dimensions of the model, followed by a description of what has been verified.

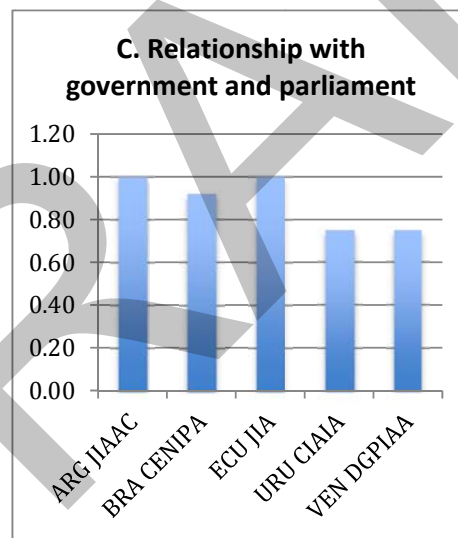


The analysis carried out on the status of the director of the aircraft accident investigation authority in 5 States of the South American Region shows the following:

- The appointment of the director comes from the government at the highest level in 2 States and from the minister of the sector in the other 3.
- The term of office is at the discretion of the appointer in one State and in the other 4 it is with no fixed term.
- There are no specific provisions for dismissal in 4 States, and dismissal is possible at the appointer's discretion only in one State.
- In 2 States it is not allowed that the director can hold other offices in the government and in the other 3 there are no specific provisions on the matter.
- The appointment of the director is not renewable in 4 States and only in one State it is renewable more than once.
- The independence is a formal requirement for the appointment in the 5 States.

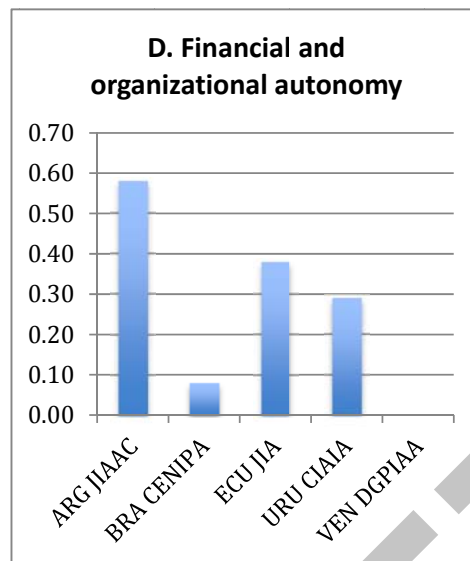


The lack of a management board or similar body affects the level of independence of the aircraft accident investigation authorities in 4 States.



The level of the scores reached in this dimension is high and homogeneous. The differences are due to the fact that:

- The independence of the authority has not been formally established in one State.
- The authority has obligations before the government in one State.
- The authority is fully accountable to the government in another State.



The analysis of the independence index of the aircraft accident investigation authorities in terms of financial and organizational autonomy shows the following:

- The source of the budget of the aircraft accident investigation authority comes from the government and industry in 3 States, and exclusively from the government in 2 States.
- The authority controls its budget only in one State, in another the government accounting office controls it, in 2 States the control is exercised by both authority and government, and in one is exercised by the government.
- The power to decide on internal organization is shared by both authority and government in one State, and the government exercises this power in 4 States.
- The authority is in charge of its personnel policy only in one State and in the other 4 States the government exercises this competence.

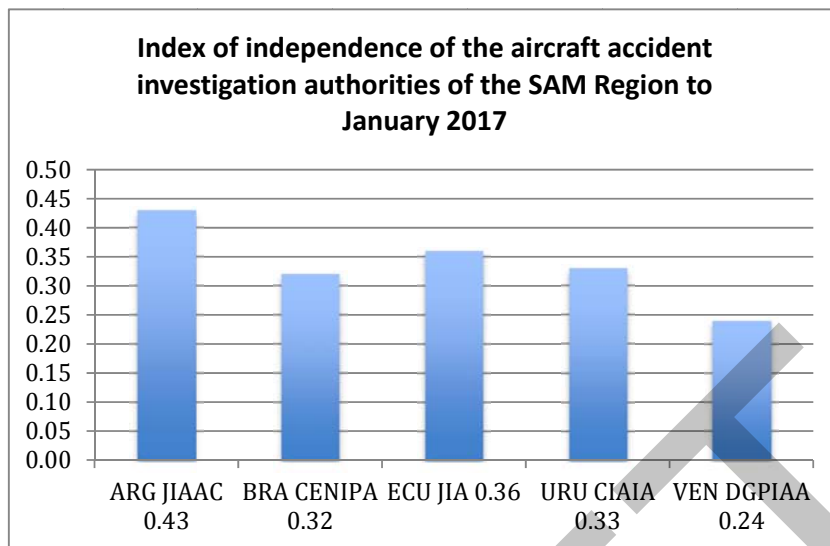
E. Regulatory competencies

Aircraft accident investigation authorities do not have regulatory competencies, as this attribution is exclusive to civil aviation authorities.

For this reason, there is no graphical synthesis of the independence index for this dimension, which is **0.00** for all aircraft accident investigation authorities, because they only have consultative powers.

Baseline to verify the independence index of each authority

As a global result of the study concerning the aircraft accident investigation authorities, it can be established as a baseline to periodically verify their independence index, the score reflected in the following graph, whose breakdown under the five dimensions analyzed is presented in the table exposed on the next page.



RESULTS OF THE STUDY

The following table shows the independence values of the authorities through the five dimensions of the metric applied to the analysis, as well as the overall score of the independence index of each authority.

INDEPENDENCE INDEX OF THE AIRCRAFT ACCIDENT INVESTIGATION AUTHORITIES OF THE SAM REGION							
State	Authority	A	B	C	D	E	Independence
Maximum score		0.20	0.20	0.20	0.20	0.20	1.00
Argentina	JIAAC	0.11	0.00	0.20	0.12	0.00	0.43
Brazil	CENIPA	0.12	0.00	0.18	0.02	0.00	0.32
Ecuador	JIA	0.08	0.00	0.20	0.08	0.00	0.36
Uruguay	CIAIA	0.04	0.08	0.15	0.06	0.00	0.33
Venezuela	DGPIAA	0.09	0.00	0.15	0.00	0.00	0.24
SAM Region (Averages)	AAIAs (5)	0.09	0.02	0.18	0.05	0.00	0.34

Conclusions

The conclusions of the study, concerning the results of the analysis of the independence of the aircraft accident investigation authorities studied, propose a series of improvement measures with respect to each of the five dimensions of the model, as set out below.

A. Status of the agency head

Conclusion:

It is required to increase the stability and independence of the post of director of the aircraft accident investigation authority, released from political power in the context of the evaluation model used, for which it will be necessary for the States concerned to adopt measures to establish that it be appointed by a collegiate body that forms part of the organizational structure of the authority, with a duration of eight years or more, nonrenewable, without the possibility of dismissal except for legally prescribed reasons, that is prevented from holding other offices in government and that independence is a formal requirement for the appointment.

B. Status of the members of the management board

Conclusion:

With regard to the management board of the aircraft accident investigation authorities, it will be necessary for the States concerned to adopt measures to:

- Formulate a statute or similar instrument that concentrates all provisions concerning the establishment, organization and operation of the aircraft accident investigation authority, including a management board at the direction level.
- Establish the management board with powers to appoint the director of the aircraft accident investigation authority and increase the autonomy and independence of this authority in its decisions, as well as in the management of an organizational structure more appropriate for the development of its competencies.
- Establish that the director of the aircraft accident investigation authority appoint the members of the management board for a term of 8 years or more, nonrenewable, without the possibility of dismissal except for legally prescribed reasons, that are prevented from holding other offices in government and that independence is a formal requirement for the appointment.

C. Relationship with government and parliament

Conclusion:

The aircraft accident investigation authorities of the South American Region have a high degree

of independence in their relationship with the government and the parliament. In order to be optimal, by reaching the highest score according to the measurement model used, the States concerned should adopt measures to:

- Formally establish the independence of the authority.
- Exempt the authority from formal obligations vis-à-vis the government.

D. Financial and organizational autonomy

Conclusion

The financial and organizational autonomy of the aircraft accident investigation authorities of the South American Region should be strengthened to increase their independence, which requires States to adopt measures to:

- Finance its operation exclusively with resources from the industry and users of its services, in order to eliminate its dependence on the public treasury.
- Exercise autonomously the control of its budget, the management of its internal organization and the administration of personnel.
- Establish or update its website so as to show, as appropriate, information on the aeronautical legislation that supports them and the description of its origin, organizational structure, functions and products.

E. Regulatory competencies

Conclusion

Aircraft accident investigation authorities have consultative competencies only.

Term of execution of the proposed improvement actions

It is considered feasible for the authorities concerned of each State to be in a position to consider the proposed improvement actions and to adopt the relevant decisions, for execution in a term not exceeding the year 2020, in order to make the results compatible with the requirements of improvement in the effective implementation of the critical element CE-3, *State civil aviation system and safety oversight functions*, of the State safety oversight system.
