Transport of Human Reproductive Samples and Regulatory Aecurity Controls Systems in EU Airports

El transporte de las muestras reproductivas humanas y la regulación de los controles de seguridad en los aeropuertos de la UE

Mario Monaco
Profesor Asociado de Derecho mercantil
Universidad de Córdoba. España

Recibido: 00.00.2010 / Aceptado: 00.00.2010
DOI: 10.20318/cdt.2025.9404

Abstract: The singularity of transporting human reproductive biological material contin-ues to grow due to the effectiveness of cryo-preservation techniques that al-low transportation of gametes and embryos through different means. While other places lack specific protocols on the matter, security controls at the air-ports are quite systematized. The analysis of regulation on this sector repre-sents an unavoidable need in view of being able to guarantee the quality and clinical security of these shipments and circulation in a safe environment. In this area, the guidelines are set by international regulatory provisions which constitutes the reference on the matter and whose implementation has not pro-duced uniform results. The subject is in continuous evolution and interpreta-tion also depending on the development of science and technology.

Keywords: Embryo, gametes, transport, airport regulation, security control.

Resumen: La singularidad del transporte de material biológico reproductivo humano es un fenómeno que sigue creciendo debido a la eficacia de las técnicas de crio-preservación las cuales permiten el transporte de gametos y embriones por diferentes medios. Mientras en otros lugares faltan protocolos específicos al respecto, los controles de seguridad en los aeropuertos están bastante sistema-tizados. El análisis de la regulación sobre este sector representa una necesidad ineludible en vista de poder garantizar la calidad y seguridad clínica de estos envíos y la circulación en un entorno seguro. En este ámbito, las pautas vienen marcadas por disposiciones regulatorias internacionales que constituyen la referencia en la materia y cuya implementación no ha producido resultados uniformes. El tema está en continua evolución e interpretación dependiendo tam-bién del desarrollo de la ciencia y la tecnología.

Palabras clave: Embrión, gametos, transporte, regulación aeroportuaria, control de seguridad.

I. Introduction

1. In the last decade, the encouraging results in reproductive medicine due to cryo-preservation by vitrification of human gametes and embryos -which allows them to be kept at a temperature that preserves all their characteristics during transport- have contributed to increase the experience of transporting samples in a considerable increasing way[1].

2. The shipment of human reproductive material, confined in cryogenic containers[2], may be performed by air, land (wheel or rail) or sea, depending on distance and destination. It is obvious that in some sensiative areas (such as airports[3], railway stations, administrative or judicial buildings) security control equipment is performed. In general, regarding of persons, the examinations are carried out using metal detectors and objects are inspected mainly by X-ray machines; however, regardless of the ethical debate about the consideration of reproductive samples (as people, things or *tertium genus*)[4] and their different rights and considerations, the consequences of exposure to ionizing irradiation could be deleterious for their eventual future development[5].

3. X-ray screening of luggage was introduced since 1973 in New York airports (Magnet and Rodgers, 2012)[6]. However, at airports, containers are now often inspected by alternative methods other than X-ray exposure in order to avoid such inconveniences; for this purpose, there are standards and regulations that establish criteria for the exemption of sources of ionizing radiation[7] and that are provided through specific operating procedures which include prior communication and authorization of its use. These procedures are also applied to certain sensitive medications, biological tissues, or blood products, among others.

4. However, assisted reproduction technology (ART) clinics - in agreement with dedicated couriers - select sometimes land shipment to carry out the transfers, which often includes the use of high-speed trains or small trucks for short-radius routes, since a reduction of survival chances or alteration thereof has been observed compared to samples transported by aircraft[8], probably due to the latter being subjected to significant pressure changes.

---

[1] L. A. Rinehart, "Storage, transport, and disposition of gametes and embryos: legal issues and practical considerations", *Fertility and Sterility*, vol. 115, 2021, nº 2, pp. 274-281.

[2] J. S. Rowlinson, *Sir James Dewar, 1842–1923: a Ruthless Chemist*, Routledge, 2016. The containers are called Dewars, whose names origin from (Sir) James Dewar, known for being the inventor of this type of transport containers which are internally covered by a porous material that absorbs nitrogen vapours and maintains the temperature stable at –196 Celsius.

[3] R. Abeyratne, 'Carriage of Dangerous Goods by Air', *Air Navigation Law*, Berlin Heidelberg, Springer-Verlag, 2012, pp. 175-194.

[4] M. Monaco, *El régimen jurídico sobre el transporte de células y tejidos reproductivos humanos: perspectiva internacional y de Derecho comparado entre España e Italia*, PhD thesis, Universidad Pablo de Olavide, 2023, who offers an extensive chapter on this *vexata quaestio*.

[5] K. T. Gloor, D. Winget and W. F. Swanson, "Conservation science in a terrorist age: the impact of airport security screening on the viability and DNA integrity of frozen felid spermatozoa", *Journal of zoo and wildlife medicine*, vol. 37, 2006, nº 3, pp. 327-335: "*Findings suggest that new airport security measures may cause radiation-induced damage to frozen spermatozoa and other valuable biologic samples transported on passenger aircraft and that alternative modes of sample transportation should be used whenever possible*". K. E. Hendricks, L. M. Penfold, D. P. Evenson, M. T. Kaproth, and P. J. Hansen, "Effects of airport screening X-irradiation on bovine sperm chromatin integrity and embryo development", *Theriogenology*, vol. 73, 2010, nº 2, pp. 267-272, who stated that the fertilizing ability of sperm may be damaged by repeated exposure to irradiation employed in airport security X-ray machines on checked luggage.

[6] S. Magnet, T. Rodgers, "Stripping for the state: Whole body imaging technologies and the surveillance of othered bodies", *Feminist Media Studies,* vol. 12, 2012, nº 1, pp. 101-118.

[7] Commission Implementing Regulation (EU) 2015/1998 of 5 November 2015 laying down detailed measures for the implementation of the common basic standards on aviation security (4. passengers and cabin baggage) amended by the Commission Implementing Regulation (EU) 2023/566 of 10 March 2023 as regards certain detailed measures for the implementation of the common basic standards on aviation security.

[8] P. Campos Lozano, E. Sánchez Chiva, A. Coello Perles, V. Vallejo, J. Serrano De Los Santos and A. Cobo, "¿Existe relación entre el medio de transporte y los resultados clínicos en los ciclos de FIV realizados con ovocitos trasladados?", *Revista de Embriología Clínica y Biología de la Reproducción*, ASEBIR, vol. 24, 2019, nº 2, pp. 11-14. L. Parmegiani, A. M.

5. Specific regulations on the exemption of X-rays for biological material vary by country with the exception of airport areas, as well as the body that manages these types of controls. And while health organizations and professionals recommend following strict guidelines to ensure that biological materials are handled safely and protected from harm during inspection procedures, there is still no specific uniform regulation on the matter.

II. Reproductive Samples and Transport: An International Well-Regulated and Actual Discipline

6. For transportation of general biological samples and human reproductive ones, there are different recommendations that pursue the objective of avoiding risks for anybody involved in the process, the environment, and the rest of the public in general[9]. Although the means of transport differs, the recommendations and existing regulations become from the very same source: the proposals of the World Health Organization (WHO) adopted by the United Nations (UN) and their respective international transport organizations[10]. For this purpose, as basic provisions to achieve the harmonization of the various national and international regulations, a set of minimum common requirements must be considered to transport any goods safely, including possibly infectious substances.

7. States are compelled to adhere to the "Instructions" and required to collaborate with the aim of aligning aeronautical regulations according to ICAO principles in order to guarantee regulatory standardization on a global scale. In EU, the European Union Aviation Safety Agency (EASA), originally established with Regulations (EC) 1592/2002 (derogated), is now disciplined by Regulations (EU) 2018/1139 on common rules in the field of civil aviation which ensure that Member States fulfil the obligations laid down in the Chicago Convention in a uniform manner.[11]

8. There are nine hazard classes determined by UN classification of dangerous goods which are used for all ways of transport. The requirements for the safe handling of dangerous goods identify a limited list of those substances which are unsafe to carry in any circumstances and then show how other potentially dangerous articles or substances can be transported safely.

Likewise, according to the classification of dangerous goods and all transport regulations (by air, road, railway, or sea), what may be concerned with human samples is mentioned in Class 6, Division 2 (Infectious Substances), and in Class 9 (Miscellaneous), namely dry ice. The shipper is responsible for determining whether the material distributed may be considered as a dangerous goods and subject to regulatory control; in that case the package guidelines according to IATA Packing Instructions must be followed[12].

9. However, in general, human reproductive samples are not considered as dangerous ones; they constitute gametes that are collected directly from humans or in vitro created embryos for the purpose of ART treatments, research, or diagnosis. Only if the patient's sample contains pathogens capable of causing disease, they are defined as hazardous substances.

Maccarini, A. Rastellini, S. Bernardi, E. Troilo, A. Arnone, S. Lanzilotti and M. Filicori, "Oocyte vitrification/storage/handling/transportation/warming, effect on survival and clinical results in donation programmes", *Current Trends in Clinical Embryology*, vol. 4, 2017, nº 2, pp. 34-40.

[9] K. Grovier, ''The woman who crawled into an X-ray machine" (2018 February 23) BBC News <https://www.bbc.com/culture/article/20180223-the-woman-who-crawled-into-an-x-ray-machine>.

[10] In particular, the UN CETDG, the Universal Postal Union (UPU), the International Civil Aviation Organization (ICAO) and the International Air Transport Association (IATA), as well as the respective regulations: Agreement concerning the International Carriage of Dangerous Goods by Road (ADR), the International Carriage of Dangerous Goods by Rail (RID) and The International Maritime Dangerous Goods (IMDG) Code.

[11] P. C. Cacciabue, I. Oddone and I. Rizzolo, *Sicurezza del trasporto aereo*, Milano, Springer-Verlag, 2010.

[12] IATA Packing Instruction 650, <https://www.iata.org/contentassets/b08040a138dc4442a4f066e6fb99fe2a/dgr-62-en-pi650.pdf>.

Therefore, unless otherwise indicated, human reproductive samples are those in which the chances of the presence of pathogens turns out to be very low or minimal[13] and, thus, excluded from classification as infectious substances.

To determine whether a sample can be classified under this definition (and therefore dispensed), a solid professional opinion is required, based on a medical history and the endemic and individual circumstances surrounding its origin. For this purpose, the indication: "Exempt human specimen" must be always placed on the outer layer of the packaging[14].

10. On the other hand, as regards to cryogenic containers that transport human reproductive samples, the main aspect that should be resolved for the purpose of transport is whether they constitute a risk and therefore considered as dangerous goods since, while transporting materials containing biological agents at very low temperatures, there might be a possibility that exposure to the material could be harmful for people and the environment.

As already mentioned, only dry ice is considered dangerous goods under Class 9. However, for the transfer of reproductive human samples dryshippers containers are widely used where nitrogen vapours are completely absorbed in a porous material[15] ensuring that it is kept within the walls of the packaging, without chance of harmful effects.

Accordingly, unlike dry ice and free liquid nitrogen containers, dryshippers are not subject to any other dangerous goods requirements and maintain the safe conditions for transport in aircraft cabins even with the extremely low temperatures they provide.

11. The container, properly marked and labelled, indicates these characteristics and the presence of samples inside[16] and the following circumstances are addressed:

a) have primary receptacle that contain the substance to be transported, which must be leak or spill-proof and present the appropriate label that illustrates its contents. Several primary receptacles may be placed in a single secondary container.
b) The second container encloses and protects the receptacles, and it embraces absorbent material; it must be waterproof and airtight (or spill-proof); and
c) a third outer package will protect the secondary container from material damage during transport. Therefore, it has to be adequately resistant to weight, size and composition of the inner ones, in order to guarantee their protection. Documentation of the samples, and other types of information that identifies or describes them, will be placed between the secondary container and the external one[17].

III. The European Union Tissue and Cell Directives (EUTCD) Establishing Safety and Quality Standards for the Distribution of Human Cells and Tissues

12. It is unquestionable that the transfer of cryopreserved reproductive samples need to be exhaustively documented[18]; in this medical sector characterized by strong growth, since 2004 the EU

[13] Directive 2000/54/EC of the European Parliament and of the Council of 18 September2000 on the protection of workers from risks related to exposure to biological agents at work (seventh individual directive within the meaning of Article 16(1) of Directive 89/391/EEC), art. 2, which classified biological agents into four risk groups, according to their level of risk of infection.

[14] V. Reviakina, M. M. Panizo "Transporte de muestras biológicas para su análisis en el laboratorio de microbiología", *Revista de la Sociedad Venezolana de Microbiología*, vol. 39, 2019, nº 1/2, pp. 4-14.

[15] G. Gandhi, G. Allahbadia, S. Kagalwala and M. Madne, "Nitrogen Vapor Shipment of Vitrified Cells: Challenges, Caution, and Emerging Opportunities' in G. Allahbadia, M. Kuwayama and G. Gandhi (eds.), *Vitrification in Assisted Reproduction: A User's Manual,* New Delhi, Springer, 2014, pp. 79-88.

[16] World Health Organization, Guidance on regulations for the transport of infectious substances 2021-2022 24: "6.5.4 Dry Shippers".

[17] World Health Organization, Guidance on regulations for the transport of infectious substances 2021-2022 16 cit.: "6.1. A Basic Triple Packaging System".

[18] M. Grossmann I Camps, M. V. Hurtado De Mendoza Acosta, M. Boada I Palà and M. C. Pons Gatell, "Embriones

institutions have been forced to implement new standards that led to the creation of a true *corpus iuris* of rules, also called "The European Union Tissue and Cell Directives" (EUTCD)[19] which is made up of six Directives and provides the legal framework defining the safety and quality standards for tissues and cells and the provisions applicable to their transport among Member States and with third countries too.

13. Adopted by the European Parliament and the Council, the Directive 2004/23/EC (also known as the "mother Directive")[20] had being brought into force by all Member States through the laws, and administrative provisions necessary to incorporate it; accordingly, Member States ensure that all tissues and cells procured, processed, stored, or distributed on their territory may be traced from the donor to the recipient and vice versa.

14. The TE must guarantee the quality of tissues and cells intended for human applications during transportation and delivery[21]. When tissues or cells are shipped by an intermediary, labelling system guarantees compliance with specific requirements related to its information or references which include a document that provides the sending TE details, a contact person in the event of problems, the clinic of destination and the person to be contacted to receive the container, the time and date of delivery and relevant specifications concerning conditions of transport to maintain the safety and quality of the tissues and cells.

15. Shipping is executed through packages suitable for transport of biological materials. The container shall minimize any risk of contamination for those responsible of storage, packaging and transportation, and low temperatures must preserve their characteristics and biological function. The following indication "Tissues and Cells", "Handle with Care", "Do Not Irradiate" must be place in the label. Only in case cells or tissues test are positive for any infectious disease marker, they must be identified as dangerous samples ("biological hazard").[22]

Therefore, when the samples are already inside the container with the documentation well located within the protective structure, the sending TE seals the package with a consecutively numbered flange and the outer container with another numbered flange; the aim is to ensure that the packaging and its contents may not be manipulated at any time[23]. However, a couple of more numbered flanges are usually included in case -at some point during the transportation- the authorities decide to open the

humanos criopreservados: Traslado entre centros de reproducción asistida", *Revista Asociación para el Estudio de la Biología de la Reproducción,* vol. 17, 2012, nº 1, pp. 5-11.

[19] According to the definition of the European Society of Human Reproduction and Embryology, 'ESHRE position paper on the EU Tissues and Cells Directive EC/2004/23' (2007) <https://www.eshre.eu/-/media/sitecore-files/Guidelines/Guidelines/Position-Papers/Tissues-and-cells-directive.pdf?la=en&hash=330CC230E81E5ABC073B655E30C5C5231B01F092>. Cfr. P. Myint, *Legal Framework for international operation of tissue banks. Legal Basis of Global Tissue Banking: A Proactive Clinical Perspective*, Singapore, World Scientific, 2015, pp. 13-30. K. Hoeyer, "An anthropological analysis of European Union (EU) health governance as biopolitics: the case of the EU tissues and cells directive", *Social Science & Medicine*, vol. 70, 2010, nº 12, pp. 1867-1873. About the name "technical directives", cfr. G. M. Hartshorne, "Challenges of the EU 'tissues and cells' directive", *Reproductive biomedicine online*, vol. 11, 2005, nº 4, pp. 404-407.

[20] E. Porta, D. Fehily, F. Bariani and A. N. Costa, "Ensuring safety and quality of tissues in Italy: application of European directives", *Transplantation proceedings*, vol. 42, 2010, nº 6, pp. 2197-2199.

[21] Directive 2004/23/EC of the European Parliament and of the Council of 31 March 2004 on setting standards of quality and safety for the donation, procurement, testing, processing, preservation, storage and distribution of human tissues and cells, arts. 2(k) and 23.

[22] Commission Directive 2006/17/EC of 8 February 2006 implementing Directive 2004/23/EC of the European Parliament and of the Council as regards certain technical requirements for the donation, procurement and testing of human tissues and cells, art. 5 and Annex IV cell and/or tissue donation and procurement procedures and reception at the tissue establishment. Commission Directive 2006/86/EC of 24 October 2006 implementing Directive 2004/23/EC of the European Parliament and of the Council as regards traceability requirements, notification of serious adverse reactions and events and certain technical requirements for the coding, processing, preservation, storage and distribution of human tissues and cells, Annex II.

[23] Cfr. United States District Court, S.D. Florida, *Desiree Luccio & Reed Frerichs v UPS*, co., Case No. 9:16-CV-81703-RLR. The case is about a lawsuit against a courier company since the embryos of the plaintiff were destroyed when an employee of the company opened the container in which they were located.

container for observation and verification; in these circumstances, it gets sealed again with the new numbered flanges and this situation need to be documented in writing.[24]

16. According to Member State health authorizations based on exhaustive regulations, the TE prepares and organizes all the procedures for the samples transport which must be carried out according to standardized operating procedures (SOP). In detail, SOP meticulously describe the chronological and sequential succession of the operations through a set of instructions and procedures to follow to carry out the transfer of the samples, according to the type of cell or tissue that is the object of the same[25].

17. When a TE involves a dedicated courier, it is required to establish written agreements between them since the latter provide services (container handling and transportation) that may affect the quality and safety of the tissues and/or cells already processed. Prior to signing framework agreements, the ET evaluates and selects those dedicated couriers based on their capacity to meet the standards laid down in the EUCTD.

In some Member States, transposition included further aspects like contract details about the responsibilities of each party and the description of the processes based on SOPs which specify exhaustive protocols[26].

18. Directive 2004/23/EC is especially characterized for its complexity and longevity, since it is still in force today, highlighting the rigorous work that reached a common consensus over the years.

However, in July 2024, the Regulation on standards of quality and safety for substances of human origin intended for human application entered into force and Directive 2004/23/EC will be repealed from August 7, 2027[27].

IV. The Control System for Cryogenic Containers of Human Reproductive Samples at EU Airports

19. Since human reproductive samples conditions of transport, obligations, and responsibilities from their origin (obtaining, extraction) to destination are therefore clearly regulated in the EU, it is necessary to analyse the rules that allows the transport of human reproductive samples by air and therefore the alternative control systems to avoid the X-ray ionizing irradiation in airports, which is harmful for gametes and embryos.

20. In Europe, the transport of dangerous goods by air is regulated by various Regulations that establish the requirements and safety measures necessary to guarantee the protection of people and the environment. Like in most countries, the issue is first addressed in Annex 18 of the Chicago Convention based on the United Nations Recommendations on the Transport of Dangerous Goods, coordinated by the Economic and Social Council Committee (ECOSOC) of Experts on the Transport of Dangerous Goods, also called the "UN Orange Book", the ICAO "Instructions" and IATA Dangerous Goods Regulations.

---

[24] F. Guijarro Ponce, "Traslados nacionales e internacionales de gametos y embriones. Aspectos técnicos y legales", *Inter disciplina*, vol.10, 2022, nº 28, pp. 233-251.

[25] M Schenk, B Huppertz, B Obermayer-Pietsch, D Kastelic, M Hörmann-Kröpfl and G Weiss, 'Biobanking of different body fluids within the frame of IVF-a standard operating procedure to improve reproductive biology research' (2017) Journal of Assisted Reproduction and Genetics 34 283-290.

[26] In Spain, Real Decreto-ley 9/2014, por el que se establecen las normas de calidad y seguridad para la donación, obtención, evaluación, procesamiento, preservación, almacenamiento y distribución de células y tejidos humano, art. 23. In Italy, Decreto Legislativo 6 novembre 2007, n. 191, Attuazione della direttiva 2004/23/CE sulla definizione delle norme di qualità e di sicurezza per la donazione, l'approvvigionamento, il controllo, la lavorazione, la conservazione, lo stoccaggio e la distribuzione di tessuti e cellule umani, art. 24(4).

[27] Document 32024R1938 Text Document information Procedure Up-to-date link Permanent link Download notice Save to My items Create an email alert Create an RSS alert 17/07/2024 Legal act Regulation (EU) 2024/1938 of the European Parliament and of the Council of 13 June 2024 on standards of quality and safety for substances of human origin intended for human application and repealing Directives 2002/98/EC and 2004/23/EC, https://eur-lex.europa.eu/eli/reg/2024/1938/oj/eng.

21. In the EU, without prejudice to the adoption of stricter rules that each Member State may implement with respect to the common basic standards, there are two basic rules on the matter: Regulation (EC) No 300/2008 of the European Parliament and of the Council of 11 March 2008 on common standards for civil aviation security and repealing the Regulation (EC) No 2320/2002, and Regulation (EC) No 272/2009 of 2 April 2009, supplementing the common basic rules on civil aviation security set out in the Annex to Regulation (EC) No 300/2008 of the European Parliament and of the Council and the Implementing Regulation (EU) 2015/1998 of the Commission of 5 November 2015, establishing detailed measures for the implementation of the common basic aviation safety standards (consolidated version).

22. Commission Implementing Regulation (EU) 2015/1998 (amended by the Commission Implementing Regulation (EU) 2023/5669 lays down detailed measures for the implementation of the common basic standards on aviation security. Accordingly, cabin baggage shall be screened by at least one of the following methods: hand search which consist of a manual check of the baggage, including its contents, as to reasonably ensure that it does not contain prohibited articles; x-ray equipment; explosive detection systems (EDS) equipment[28]; automated prohibited items detection (APID) software in combination with EDS equipment; explosive detection dogs in combination with point hand search; explosive trace detection (ETD) equipment which has become a key technology in civil aviation security screening processes in Europe and the ultimate method for human biological samples.

23. Finally, where screeners may not determine whether the hand luggage contains any prohibited articles, must be rejected, or rescreened until complete satisfaction. The screening of cabin baggage has also to be subjected to the additional provisions laid down in Commission Implementing Decision C(2015) 8005.

V. Conclusion

24. Over the years, the use of systematic controls in sensitive areas has turned to be a practice that Rachel Hall (2007)[29] has named as 'aesthetics of transparency': uncritically, security is equated with 'visibility', which pertains indeed to the personal luggage, and ultimately to the human body itself too. A screening solution has to be accurate, but also publicly acceptable; therefore, security screening to inspect persons and cabin baggage requires more sophisticated technology different than scanners and ionizing irradiation controls.

25. Technical and scientific progress in the field of security inspections offers elements that ensure effective and safe control as well in the absence of X-ray machines. Furthermore, technical specialization and quality controls may speed up the process and avoid ambushes at the security controls. For human reproductive samples, alternative methods manual check may be accompanied by other means like electronic signatures, credential readers, and features within Artificial Intelligence (AI) approaches like ETD Machine learning,[30] etc. in order to take accurate and persistent decisions. It is certain that technological advances must be accompanied by checks and approvals from responsible entities to ensure regulatory compliance and general safety. However, given the current state of technology and discipline in the matter, it is not difficult to compare airports with other sensitive areas and apply those established control methodologies, similarly, avoiding ionizing scanners routinely.

[28] S. Singh, M. Sing, "Explosives detection systems (EDS) for aviation security", *Signal processing*, vol. 83, 2003, nº 1, pp. 31-55.

[29] R. Hall, "Of Ziploc bags and black holes: The aesthetics of transparency in the War on Terror", *The Communication Review*, vol. 10, 2007, nº 4, pp. 319–346.

[30] K. C. To, S. Ben-Jaber and I. P. Parkin, "Recent developments in the field of explosive trace detection", *ACS nano*, vol. 14, 2020, nº 9, pp. 10804-10833.

26. In accordance with the regulations presented above, there are clear regulated exemptions related to human reproductive samples in the airports; it is therefore recommended that ETs and dedicated couriers prepare and present labels that specify the immunity ("X-ray exempt"), the characteristics of the containers and the material transported according to the discipline for each type of transport. Couriers need to be specialized in the matter too with specific knowledge over materials and the procedures.

27. The growing interrelation of the current and globalized world requires coordinated responses in the field of transport also to facilitate the development of intramodality with an operational and regulatory coherence that responds to the current needs of the logistics labour and which, today, represents a peremptory necessity for service companies. It is necessary to update the control system as much as possible to meet the needs for security in transport, assuming investments which may contribute to save social costs in terms of assistance especially in ART which is mandatory in a continent with a clear demographic decline.