

EL REGISTRO ELECTRÓNICO DEL SISTEMA DE INFORMACIÓN SÉNECA COMO HERRAMIENTA DE AGILIZACIÓN Y OPTIMIZACIÓN DE LA PLANIFICACIÓN, EL SEGUIMIENTO DE LOS PROCESOS Y EL CONTROL DE LOS RESULTADOS DE LAS ACTUACIONES DE LA INSPECCIÓN EDUCATIVA DE ANDALUCÍA

THE ELECTRONIC REGISTRY OF THE SENECA INFORMATION SYSTEM AS A TOOL FOR STREAMLINING AND OPTIMIZING PLANNING, PROCESS TRACKING, AND PERFORMANCE CONTROL OF EDUCATIONAL INSPECTION ACTIONS IN ANDALUCÍA

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Resumen

Las normas de regulación de las Administraciones Públicas, Ley 39/2015, de 1 de octubre, del Procedimiento Administrativo Común de las Administraciones Públicas, y Ley 40/2015, de 1 de octubre, de Régimen Jurídico del Sector Público, establecen las bases para una verdadera

administración electrónica y sin papeles, tanto en sus relaciones con la ciudadanía como entre ellas mismas. Esta apuesta normativa sirve de impulso a la Inspección Educativa de Andalucía para llevar a cabo la necesaria digitalización de su trabajo, orientando la misma a la mejora de la trazabilidad y seguimiento de los procesos, así como del control sobre los resultados de las distintas actuaciones que se llevan a cabo en el desarrollo de sus cometidos competenciales.

En el curso 2003/2004 se inicia la incorporación de algunas actuaciones de la inspección educativa de Andalucía a la aplicación informática Séneca, y desde entonces, se ha dado soporte digital y tecnológico a gran parte de las mismas, intensificándose en los últimos cursos la integración de las actuaciones y el uso de la aplicación, culminándose con el desarrollo del Registro Electrónico, (Tramitador), a través del cual, se gestionan todas las entradas, que pueden derivar en los procedimientos e informes pertinentes.

Desde el punto de vista cuantitativo puede observarse que la cantidad de entradas, procedimientos e informes gestionados a través del módulo de registro informatizado es ingente, y supone una buena evidencia del trabajo que realiza la Inspección Educativa de Andalucía a lo largo del curso.

Palabras clave: *Registro electrónico, planificación, digitalización, procesos, profesionalización.*

Abstract

The regulations of the Public Administrations, Law 39/2015, of October 1, of the Common Administrative Procedure of Public Administrations, and Law 40/2015, of October 1, on the Legal Regime of the Public Sector, establish the bases for a true electronic and paperless administration, both in its relations with citizens and among administrations themselves.

This regulatory commitment serves as an impulse to the Educational Inspectorate of Andalusia to carry out the necessary digitization of its work,

guiding it towards improving traceability and monitoring of processes, as well as control over the results of the different actions that are carried out in the development of their competence tasks.

In the academic year 2003/2004, the incorporation of some actions of the educational inspectorate of Andalucía to the Seneca computer application began, and since then, digital and technological support has been given to a large part of them, intensifying in recent years the integration of the actions and the use of the application, culminating in the development of the Electronic Registry, (Processor), through which all inputs are managed, which may lead to the relevant procedures and reports.

From a quantitative point of view, it can be seen that the number of inputs, procedures and reports managed through the computerized registration module is huge and is good evidence of the work carried out by the Educational Inspectorate of Andalucía throughout the school year.

Keywords: *Electronic registration, planning, digitization, processes, professionalization.*

1. JUSTIFICATION

The regulations of the Public Administrations, Law 39/2015, of October 1, of the Common Administrative Procedure of Public Administrations, and Law 40/2015, of October 1, on the Legal Regime of the Public Sector, establish the bases for a true electronic and paperless administration, both in its relations with citizens and among administrations themselves.

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In the academic year 2003/2004, the incorporation of some actions of the educational inspectorate of Andalucía to the Seneca computer application began, and since then, digital and technological support has been given to a large part of them, intensifying in recent years the integration of the actions and the use of the application, culminating in the development of the Electronic Registry, (Processor), through which all inputs are managed, which may lead to the relevant procedures and reports.¹

In the preamble of Decree 285/2010 which regulates the Seneca information system in Andalucía², it is stated that: "(...) constitutes as the precise instrument for the integral telematic management of educational centers, educational support services, programs and activities of the Andalusian educational system, through the use of information technology and communications in a secure and integrated environment for the processing of documents within the framework of the electronic administration infrastructures regulated and managed by the Andalusian Board, favoring an equal access of the population to educational services".

Given the modular architecture of the Seneca information system, which allows navigation functionalities, data, and process management, as well as providing messaging support between the different units, bodies, centers or entities, a module is designed, added, and implemented to work as a computerized registry of procedures of the Educational Inspection of Andalusia. Therefore, the general modules of the Inspectorate are completed with this registry.

Simultaneously, the circumstances and consequences derived from the socio-sanitary situation caused by COVID-19 gave even more meaning to this project, allowing the information exchange processes between the

¹For the development and evolution of this process see Sánchez Hermosilla, M. J., Aguilar Rayo, A., Pérez Aguilar, J. F., Pérez Galafate, R. M., Robles Chacón, M. M., & Zulueta Castañeda, M. (2020). Digitalización de la inspección educativa de Andalucía. *Avances En Supervisión Educativa*, (33). <https://doi.org/10.23824/ase.v0i33.678>

² Decree 285/2010, of May 11, which regulates the Seneca information system and establishes its use for the management of the Andalusian educational system.

Educational Inspection and the educational centers to be carried out through the electronic registry of the Seneca information system, as well as using the electronic counters, something also applicable to the different sectors of the educational community. Additionally, during times of confinement, it allowed the continuity of the work of the Education Inspectorate through telematic means.

In a more global framework, this project is in line with the European proposal on digital competence and the general context outlined in the European Union communication "Digital Compass 2030: the European way for the Digital Decade", which argues that "digital technologies can contribute significantly to the achievement of the objectives of the European Green Pact. The adoption of digital solutions and the use of data will contribute to the transition towards a climate-neutral, circular, and more resilient economy." (p. 3).

Thus, the development and implementation of the computerized inspection registration module or, as it is known, the Processor, initially had the following objectives:

1. Promote the digitalization of the actions of the Educational Inspection to streamline and optimize its planning, the monitoring of processes and the control of results.
2. Provide information on the processing status of the procedures developed by the Provincial Education Inspection Services, as well as immediate access to the documentation related to them.
3. Elimination of the paper format in the management of procedures associated with the Educational Inspection of Andalucía.

2. BACKGROUND, ORIGIN OF THE PROJECT AND ALLIANCES FOR ITS DESIGN

During the last few years, the different Provincial Education Inspection Services in Andalucía had been developing their own computer tools aimed at facilitating the management of their procedures. These tools were varied and had different functionalities, which did not always solve all the needs, although they were oriented to facilitate and optimize the organization of the Provincial Services through the communication to the inspectors of those issues that were within their competence for their processing.

However, there was no uniformity among these tools, so that they did not coincide from one province to another, and therefore did not allow a homologated workflow at a general level. The closest antecedent, and the germ of the current computerized registry, was carried out by the Provincial Inspection Service of Cadiz, where a program developed in databases was implemented that allowed for:

1. The creation of procedures and the sending of associated internal notes by the Chief of Service to the inspectors, allowing all the documentation related to them to be attached.
2. The receipt or rejection of the same by the inspectors.
3. The creation of procedures by the inspectors.
4. The uploading of digitally signed inspection reports by means of an external tool for their processing.

Understanding as an opportunity to develop a single system at Andalucía level for the registration and management of procedures, it is set as a strategic line of work within the General Plan of Action of the Educational Inspection of Andalucía the "promotion of the digitization of the work of the Educational Inspection, streamlining and optimizing its planning, monitoring of processes and control of the results of their actions"³ and, all this from a management approach based on processes oriented to favor the planning,

³Order Fifth.2 of the Order of July 19, 2019, which establishes the General Plan of Action of the Educational Inspection of Andalucía for the period 2019-2023.

development and evaluation of the actions of the Educational Inspection of Andalucía to ensure their quality.⁴

Thus, at the end of the 2018-2019 academic year, the project of the computerized registration module of the Inspection together with the Information Systems Service of the then Department of Education and the company AYESA, with which the services have been contracted, began. This new model of computerized registration of Inspection had the approach that can be seen in Figure 1.

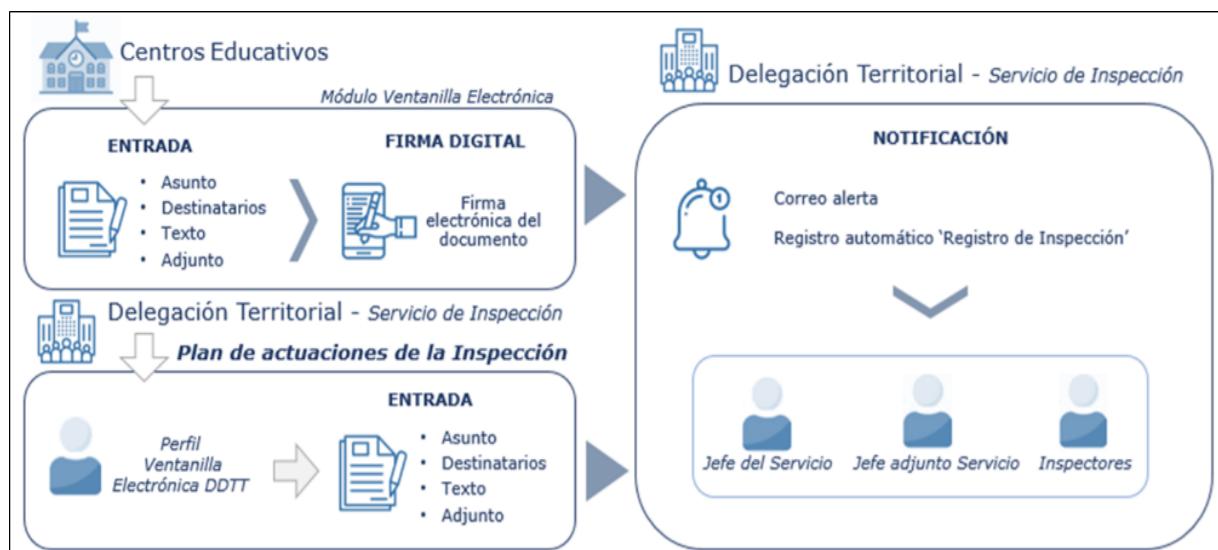


Figure 1. Approach to the computerized inspection registry. Own elaboration.

Figure 2 below shows the benefits provided by this computerized inspection record module.

⁴Provision Three.5 of the Order of July 19, 2019, which establishes the General Plan of Action of the Educational Inspection of Andalucía for the period 2019-2023.



Figure 2: Benefits of implementing the computerized inspection registration module. Own elaboration.

3. FIRST STEPS, PILOTING AND GENERALIZATION OF THE PROJECT. TRAINING ASSOCIATED WITH THE PROJECT

The development of the project is carried out by means of an implementation plan developed through a strategy in 3 different phases, as can be seen visually in Figure 3.



Figure 3: Implementation plan. Strategy. Own elaboration.

The first phase, which covered June through September 2020, includes:

- Development of Block 1 of the project:
 - TTDD/SSCC procedure management.⁵
 - TTDD/SSCC input management.
 - TTDD/SSCC report Management.
 - Integration with the processing core, electronic window, and electronic registry of the centers.
 - Testing and validation of block 1.

In the second phase, developed from September 2020 to January 2021, it is carried out:

- Training on block 1 and piloting of block 1 (Provincial Education Inspection Services of Cadiz and Huelva and CCSS).
- Development of block 2 of the project:
 - Referral of inputs to TTDD and other CCSS.

⁵ TTDD/CCSS: Territorial Delegations / Central Services.

- Notifications of changes in the status of inputs and reports.
- Management of actions
- Modification of integration with @ries⁶.
- Testing and validation of block 2.
 - Training on block 2 and piloting of block 2 (Provincial Education Inspection Services of Cadiz and Huelva and CCSS).

Finally, the third phase, starting in January 2021, includes:

- Training on the complete module to the rest of the Provincial Inspection Services.
- Opening of the module to the rest of the Provincial Inspection Services.

In accordance with all of the above, an implementation schedule is established, in line with the aforementioned strategy, thus allowing for its follow-up.

⁶ Input/Output registration system of the Andalucía Board, not only on-site but also online, enabling the completion of administrative procedures through the Internet, being able to attach documentation in electronic format and returning the registration of the document, with the date and time of the start of the procedure.

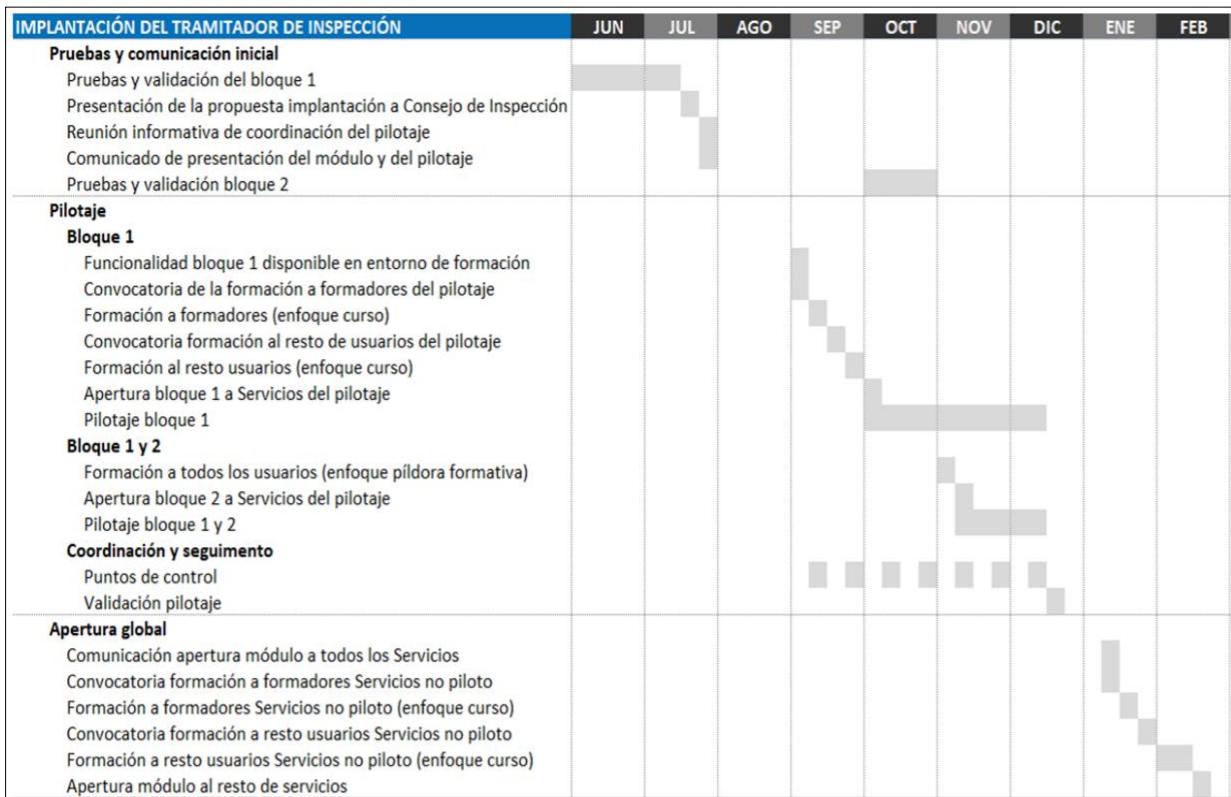


Figure 4. Implementation plan. Chronogram. Own elaboration.

All this development is accompanied by a planned communication process, aimed at promoting the knowledge and use of this new module; the planning of this communication strategy can be seen in Figure 5.



Figure 5. Planning the communication process. Own elaboration.

The monitoring and coordination of the implementation during the pilot phase was carried out by an overall coordinator within the General Education Inspectorate and a pilot coordinator in each Provincial Service (deputy chiefs).

The strategy used for the monitoring of the pilot is based on the establishment of biweekly checkpoints, with telematic meetings and the use of previously defined feedback mechanisms. Minutes are taken at each of these meetings with the topics discussed and agreements adopted for the knowledge of all attendees.

Focusing on the training associated with the project, a cascade training is planned in several phases, the first one for the Provincial Services in piloting and another one of a general nature, for the rest of the Provincial Services, with the following structures:

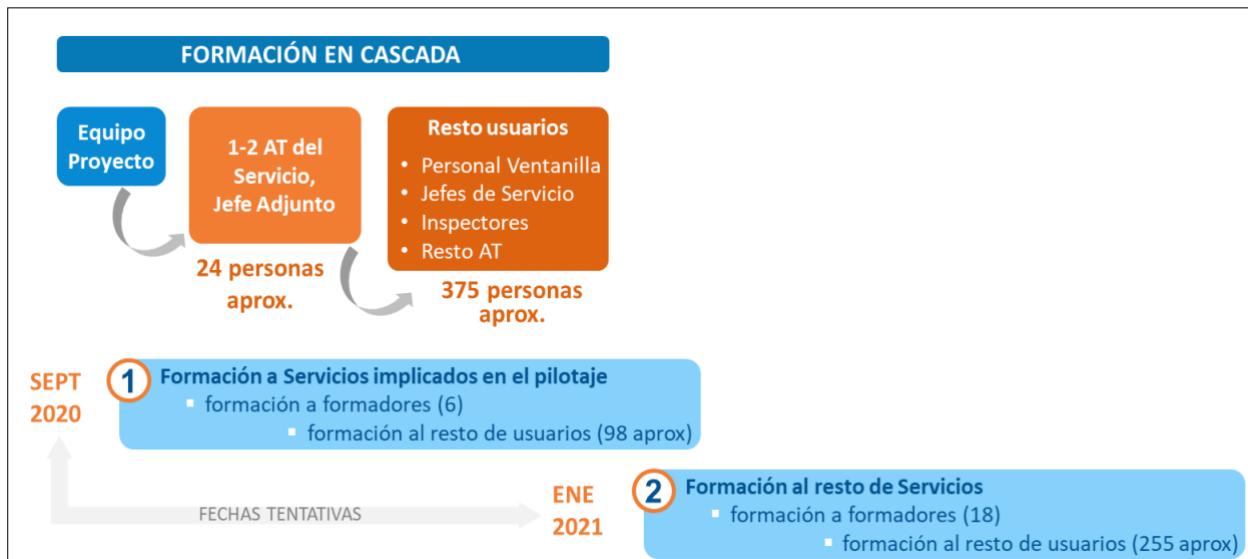


Figure 6. Training Strategy. Planning. Own elaboration.

For the development of the training associated with the computerized registry module, a wide variety of resources were made available to all users from the beginning:

- Manual of the Inspection computerized registry module.
- Course script Block 1.
- Training pill Block 2.
- Course script on the complete Inspection computerized registration module.
- Computerized registration module available in Seneca information system training environment.
- Simulation of profiles for trainers.

As for the logistics for the development of the training, the following were mainly available:

- Classrooms for face-to-face training in different Teacher Centers.

- Online environment for webinars in BB Collaborate.

4. FUNCTIONALITIES OF THE COMPUTERIZED INSPECTION REGISTRATION MODULE. GENERALIZED USE

Figure 7 offers an overview of the computerized record workflow from the receipt of an input to the completion of the associated procedure.

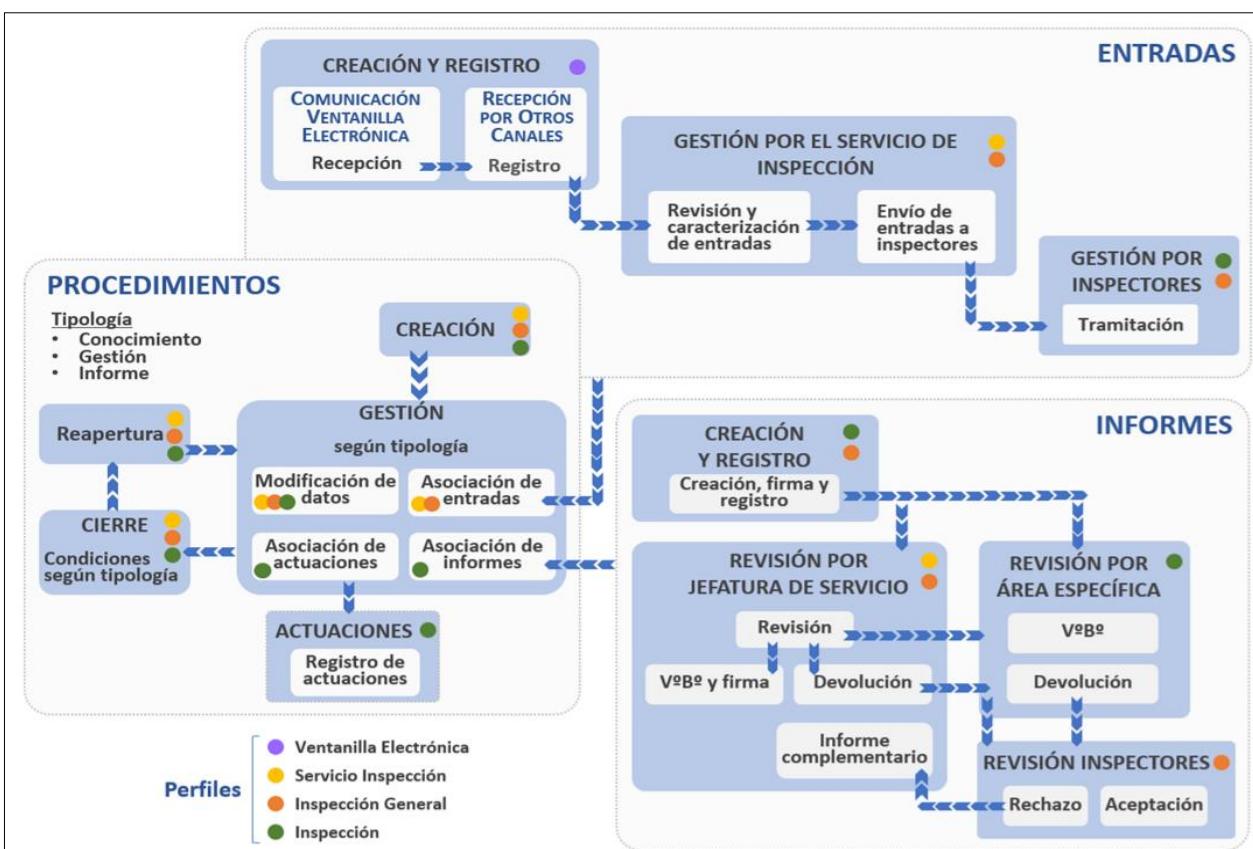


Figure 7. Overview of the operation of the computerized inspection registry module. Own elaboration.

As can be seen in the previous chart, different access profiles to the module are established, each of which has different scopes of vision and associated functionalities, as follows:

Ventanilla electrónica de la Delegación
▪ Gestión de comunicaciones dirigidas al Servicio (por Ventanilla Electrónica u otros medios) en las DDTT o en SSCC
Servicio de Inspección
▪ Creación y gestión de procedimientos correspondientes a su DDTT, revisión y tramitación de entradas e informes asociados a los mismos
Inspección General
▪ Gestión de procedimientos correspondientes a SSCC, revisión y tramitación de entradas e informes asociados a los mismos ▪ Consulta de la gestión realizada en las DDTT ▪ Derivación de entradas, cuando proceda a las DDTT, a otras Direcciones Generales o a la Secretaría General Técnica
Inspección
▪ Tramitación de entradas e informes que les sean asignados, creación de procedimientos de oficio, gestión de procedimientos que les sean asignados ▪ Inspectores de referencia de un centro – consulta de la gestión realizada en torno a gestión realizada en torno a los mismos aun cuando las entradas, procedimientos e informes no le hayan sido asignados
A.T. Inspección
▪ Consulta de la gestión de procedimientos, entradas e informes realizada en su DDTT

Figure 8. Profiles and access (I). Own elaboration.



Figure 9. Profiles and access (II). Own elaboration.

As can be seen, the module has 3 interconnected sub-modules (inputs, procedures and reports) that allow the complete management by the Provincial Education Inspection Services.

Focusing on the “inputs” sub-module, the allowed functionalities are as follows:

- Creation and registration of inputs.
 - Through the reception of communications from educational centers via Electronic Window.
 - Manually, allowing the attachment of files (in Zip or PDF format) and association with a specific center.
- Characterization of inputs.
 - Assignment to a procedure (either existing or created based on the input).
 - Assignment to an inspector (by default the center reference, although it is modifiable).
 - Character (ordinary/urgent).
 - With or without internal note.
 - Input processing (according to the processing flow, each profile can make the status changes that correspond to it).
 - Generation and signature, when appropriate, of interior notes.
 - The Inspectorate General can refer the management of inputs registered for service to a Provincial Inspection Service.
 - Enquiry.

- Listing and detail of inputs including accompanying documentation.
- History of entry procedures.

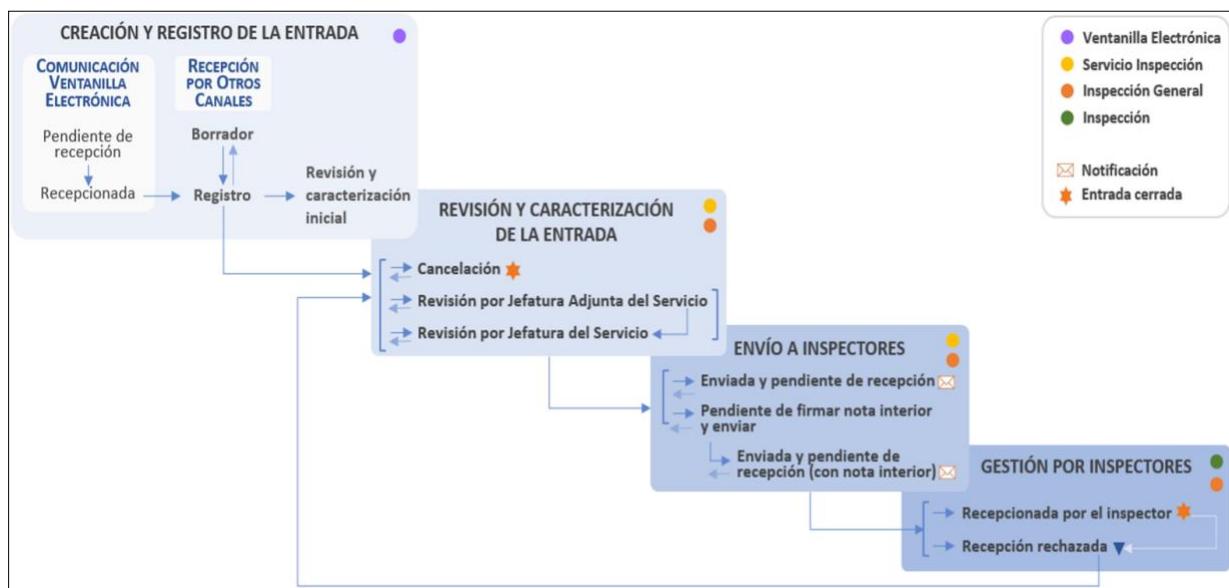


Figure 10. Input sub-module processing flow. Own elaboration.

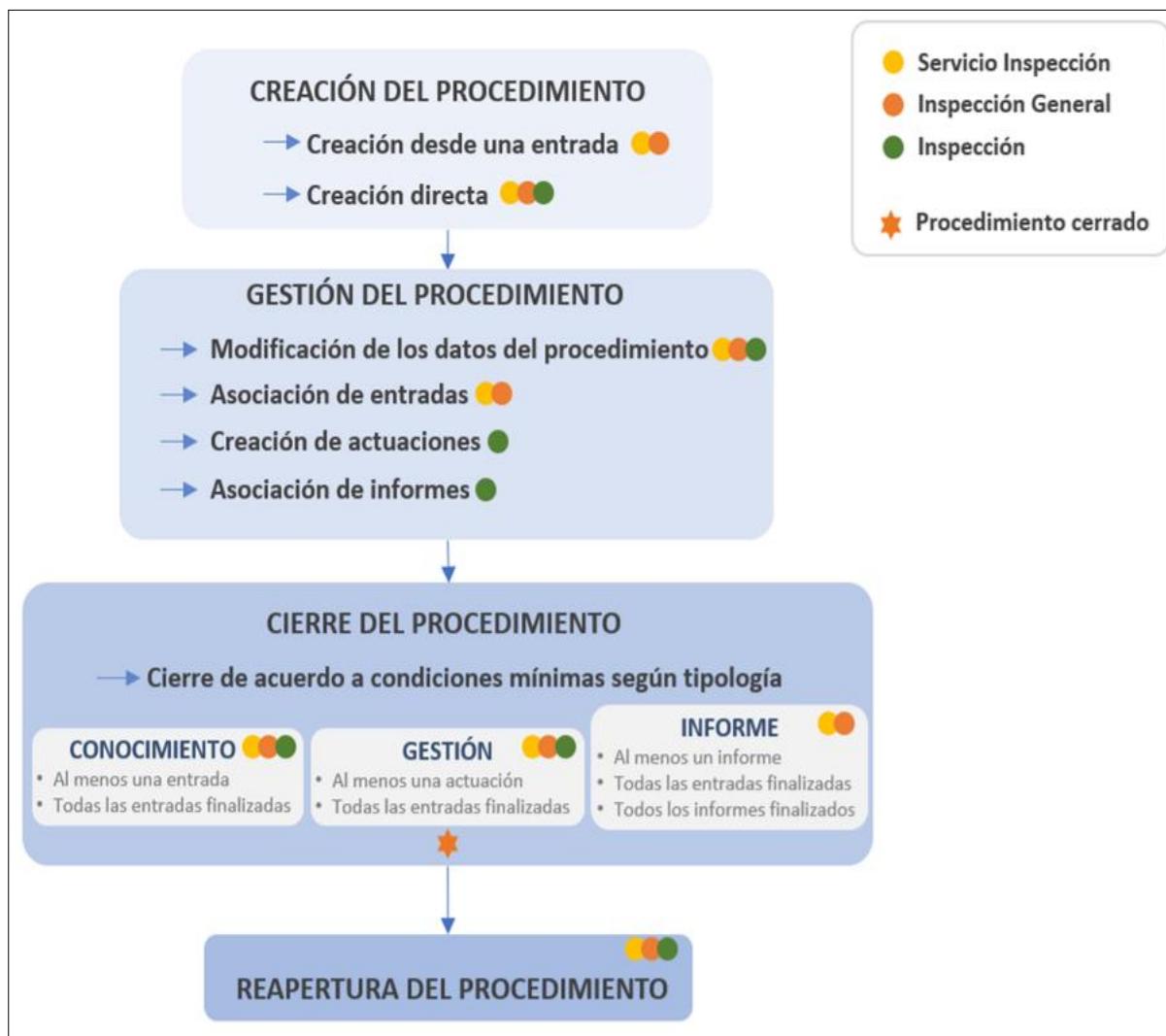
When an inspector accesses the inputs in the module, by default he/she sees the inputs pending receipt with or without an internal note, while the Inspection Service profile sees the inputs pending review by the Service Chief. Both profiles can filter the inputs by other statuses.

The procedures sub-module has the following functionalities:

- Creation of procedures.
 - From an input or ex officio.
 - Allows attaching PDF files to the procedure.
- Procedure management (according to the management flow, each profile will be able to perform the corresponding actions).
 - Modification of procedure data.

- Assignment of the procedure to a center (it is assigned by default to the reference inspector, although it is editable).
- Creation of actions and reports associated with the procedure.
- Association of inputs.
- Processing.
 - Apertura, gestión, cierre y reapertura de procedimientos.
- Enquiry
 - List and details of procedures.
 - List and details of the entities associated to a procedure (inputs, actions, and reports).
 - Facts of the procedure (history of procedures, modifications, association of inputs, actions, and reports)
- Inspection actions associated with a procedure.
 - With collection of time and description of the action.
 - Possibility of uploading PDF files.

As for the workflow of this submodule, it can be seen in the following figure:



Procedures sub-module processing flow. Own elaboration.

As can be seen, a typology of inspection procedures is defined, which classifies them into three groups:

- Knowledge procedures.
- Management procedures.
- Reporting procedures.

Different actions are required for each of these types, without which it is not possible to close the procedure.

Finally, the reports sub-module has the following functionalities:

- Creation and registration of reports.

- Always associated to an existing procedure.

- The report requires the signature of the inspector of the document generated in Seneca and implies the registration of the report in the module.

- Allows files to be attached to the report.

- Report processing (according to the processing flow, each profile will be able to make the corresponding status changes).

- Generation and signature of the reports by the inspector and the Chief of Service.

- Review by the Chief of Service and possible review by the person responsible for the associated action.

- Return of the report to the inspector/as and uploading of supplementary report, when appropriate.

- Acceptance and rejection of the return by the inspector.

- Enquiry.

- From the list and detail of reports.

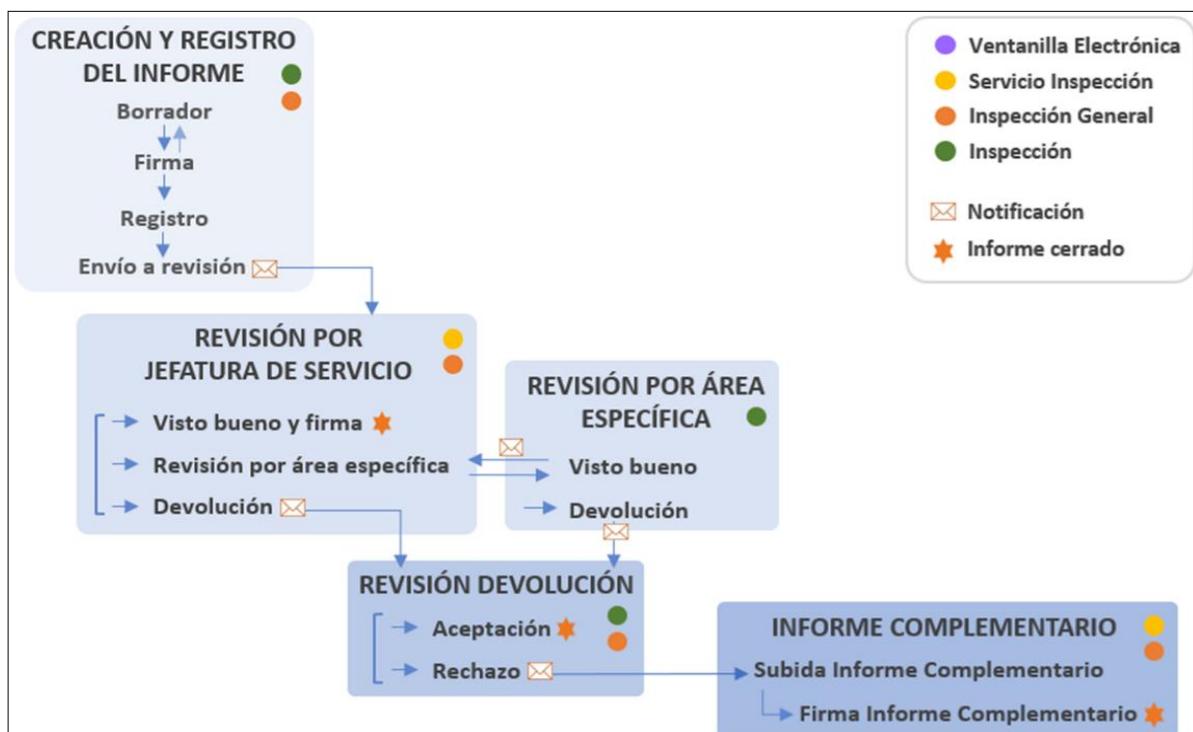


Figure 12. Processing flow of the report sub-module.

5. DATA ON THE GENERALIZATION OF PROJECT FUNCTIONING

Since the implementation of the Inspection Processor module, all the inputs and procedures in the Provincial Inspection Services, both from educational centers and from other services of the Administration and the different sectors of the educational community, have been managed through it.

The following tables show the number of inputs, procedures and reports managed through the computerized registry to date (July 12, 2023), globally in Table 1 and by Provincial Service in Table 2.⁷

⁷For the academic year 2020/2021 it should be taken into account that in the first quarter the module was only implemented in two Provincial Inspection Services (Cadiz and Cordoba), coexisting during this period with the pre-existing model. The data is updated as of May 23, 2023.

	Curso 2020/2021	Curso 2021/2022	Curso 2022/2023
ENTRADAS	22.458	38.904	39.564
PROCEDIMIENTOS	19.486	34.381	35.095
INFORMES	7.872	14.346	14.163

Table 1. Number of inputs, procedures, and reports at the global level.
Seneca data. Own elaboration.

	2020-21			2021-22			2022-23		
	ENTRADAS	PROCEDIMIENTOS	INFORMES	ENTRADAS	PROCEDIMIENTOS	INFORMES	ENTRADAS	PROCEDIMIENTOS	INFORMES
SP 1	1537	1132	494	4901	3337	999	4818	3213	1027
SP 2	6277	5584	1499	7651	7194	2200	6949	6584	2093
SP 3	3449	2674	965	3744	2712	1278	3650	2446	1208
SP4	2522	2313	1066	4619	4839	1868	4880	4953	1837
SP5	1521	1235	575	2853	1989	971	2504	1699	758
SP6	1307	1059	436	2936	2685	1378	2697	2473	1394
SP7	1998	1672	828	3438	3004	1921	3560	3412	2152
SP8	3847	3817	2009	8762	8621	3731	10506	10315	3694

Table 2. Number of inputs, procedures, and reports by Provincial Services. Seneca data. Own elaboration.

The following figures show the evolution of the number of inputs, procedures and reports issued for each school year:

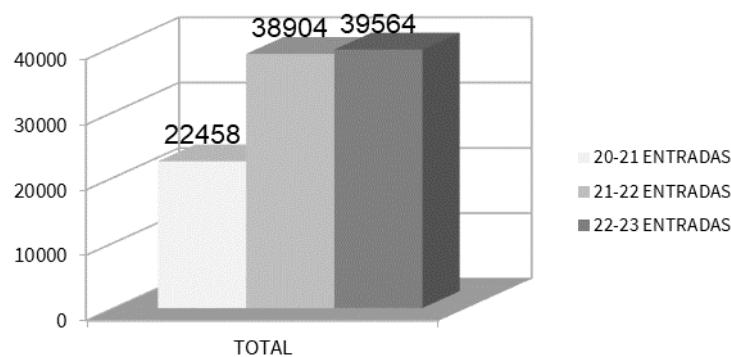
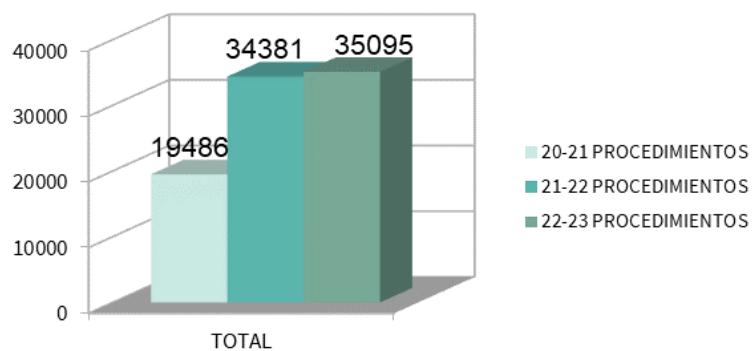
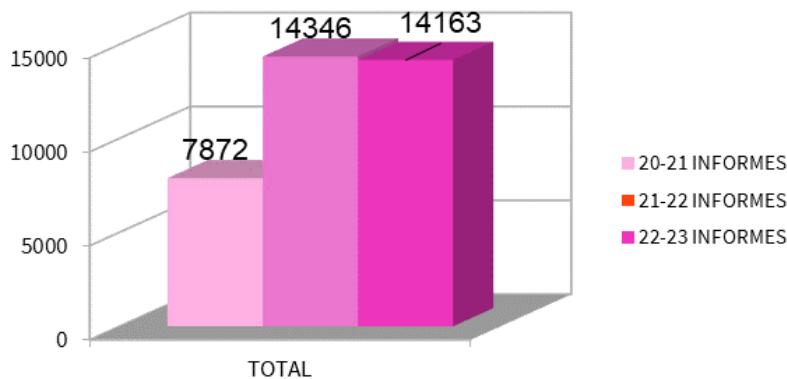


Figure 13. Number of inputs per school year. Seneca data. Own elaboration.



Number of procedures per school year. Seneca data. Own elaboration.



Number of reports per school year. Seneca data. Prepared by the authors.

Quantitatively, the number of inputs, procedures and reports managed through the computerized registry module is enormous and is good evidence

of the work carried out by the Andalusian Education Inspectorate throughout the school year.

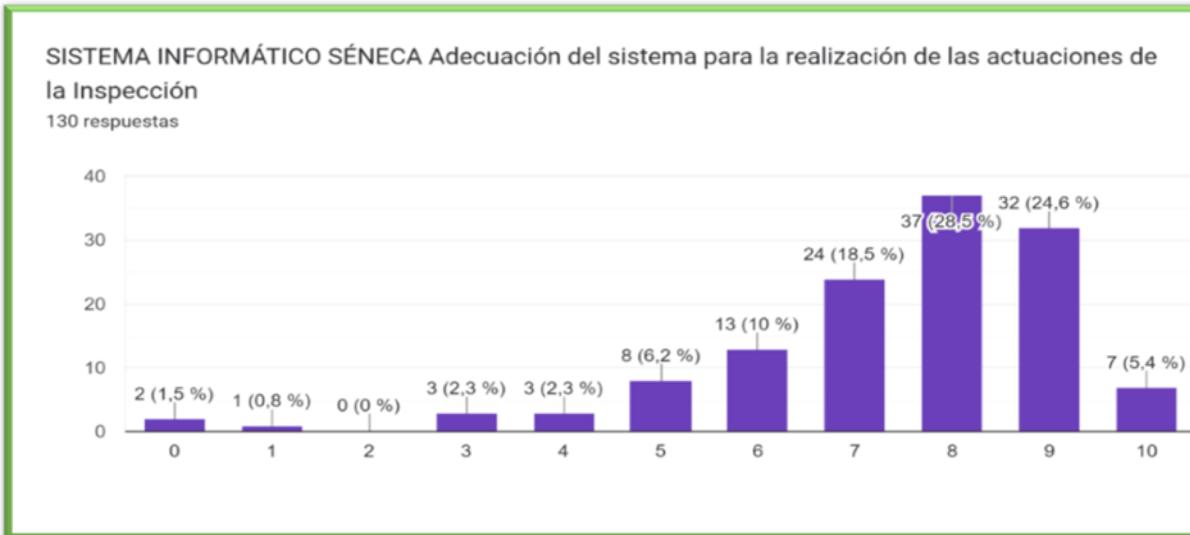
In this sense, through the computerized registration module it is possible to disaggregate each of these entities according to the associated procedure, which allows obtaining accurate data on those that require most of the work time.

6. RATING OF THE PROCESSOR BY THE INSPECTORS

The implementation of the Inspection Processor through the Seneca computer system was initially received unevenly by the inspectors, with the typical resistance that any change and innovation may entail, since it implied new procedures to be carried out and familiarization with the computerized registration module.

But the reality is that three years later, and within a participatory process of evaluation of the 2019/2023 Action Plan, the participation of the inspectors was requested through anonymous questionnaires, and two of the questions asked in them were related to the digitization process and the implementation of the processing system. The results are shown in Figures 15 and 16, and the high rating received is significant.

Several questions were asked about the Action Plan of the Andalusian Educational Inspection, and specifically, two of them, about the adequacy of the Seneca computer system for the development of the actions of the Inspection, all of them through specific modules (with an average score of 7.25 out of 10), and, on the other hand, the implementation and use of the Computerized Registry of Inspection (Processor), with an average score of 7.17 out of 10.



Inspection assessment of Seneca's adequacy. Own elaboration.



Figure 17. Evaluation of the inspection of the Processor. Own elaboration.

7. PROGRESS AND FUTURE OF THE PROJECT UP TO ITS INTEGRATION WITH THE REST OF THE E-GOVERNMENT APPLICATIONS

Generalized and fully operational, various functional improvements are proposed to the computerized inspection registry module to respond to the needs of the different inspection activities.

In this sense, we can list the following functional needs for the future:

- Possibility of elaborating inspection reports within the same module, thus avoiding the loading of external files.
- Interconnection with other applications of the Andalusian IT ecosystem, such as Tray or Notification.
- Improvement of the procedures management flow.
- Implementation of developments aimed at facilitating the workflow.

These improvements are often linked to the modifications introduced in the Seneca information system itself and its architecture.

7. CONCLUSIONS

The implementation of the Computerized Inspection Record module (Processor) has brought about a qualitative change in the workflow of the Educational Inspection of Andalucía.

As pointed out by Arias and Gene (2003), the keys lie in the organization's ability to integrate these technologies into its existing processes, as well as in its ability to reorganize processes to obtain benefits from the investments made in technology, that is, in its ability to digitize itself.

Thus, the integration of this Processor into the day-to-day work of the Andalucía Education Inspectorate has meant a real change, not in the processes themselves, but in the way they are developed, in terms of optimization, traceability, efficiency and agility in the responses.

Hence, we can point out a series of achievements during the implementation period of the module, such as the following:

- Have a standardized and common tool for all Provincial Services, which allows for the control of procedures and facilitates an adjusted assessment of workloads and the type of procedures being worked on.
- Facility to keep organized and accessible the information and documentation related to all the procedures developed by the Inspection Services.
- Reduction in the use of paper and, consequently, a decrease in the economic and environmental costs of printing in the Inspection Services.
- Increase the efficiency level of the inspection's work, thanks to the immediacy in the procedures and communications.
- Reduce the time required to request information on data related to the inspection activities, as they can be accessed in real time.
- Increase professionalization of inspection, with the development of digital competence and the use of technologies as work tools.

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