



Lisbon School
of Economics
& Management
Universidade de Lisboa

Master
Data Analytics for Business

Final Master Work

Internship Report

Curricular Internship in AIESEC

Edna Carina Henriques Varandas

January 2026



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Glossary

AIESEC — Association Internationale des Étudiants en Sciences Économiques et Commerciales

BI — Business Intelligence

KPI — Key Performance Indicator

NGO — Non-Governmental Organization

KM — Knowledge Management

EXPA — Exchange Platform AIESEC

LC — Local Committee

MC — Member Committee (National Team)

APD — Approval Date

TM — Team Member

TL — Team Leader

EB — Executive Board

oGV – Outgoing Global Volunteer

iGV – Incoming Global Volunteer

iGTa – Incoming Global Talent

oGTa – Incoming Global Talent

BCXP – Brand and Customer Experience

Abstract

This paper outlines the activities and results of the internship with AIESEC, biggest youth-lead organization in the world, in connection with a postgraduate master's degree in data Analytics for Business. The purpose of this internship is to contribute to improved decision-making processes within the organization by implementing data analytic and business intelligence best practices. During the internship, several solutions were designed and implemented. These solutions include the creation of interactive dashboards with the use of Looker Studio to track key performance indicators, the design and creation of a website that would improve the digital footprint of the organization, and the design of a management platform to improve communication. The other aspect of the internship was the management of a domain migration from aiesec.net to aiesec-pt.org. The methodologies used included data analysis processes, principles for designing dashboards, as well as information management practices for ensuring the data is available, consistent, and usable within the organization. The results impacted data visibility, decision-making, as well as coordination within AIESEC in Portugal. The results of this report are a critical assessment of challenges that were encountered, solutions that were applied, and competencies that were developed, emphasizing the applicability of data analytics tools within non-profit organizations. The internship also shows how data can play its role in providing strategic benefits within an NGO environment.

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1. Introduction

Although Business Intelligence and Data Analytics are already widely adopted in the corporate sector, many NGOs still face challenges in implementing data-driven decision-making practices due to limited resources, decentralized structures, and lower technical capacity.

AIESEC is a global youth-led organization that operates with the specific aim of providing leadership skills through international experiences. The activities of these organizations result in the production of large amounts of data.

In the context of AIESEC in Portugal, the fact that the organization operates on a decentralized basis using different tools and with local reporting means that there is fragmented data that is not well integrated. This makes it difficult to take consistent and evidence-based decisions that align with the national and local structure.

AIESEC in Portugal does not have any standardized system in place for gathering data related to their operations, as well as monitoring key performance indicators. The distribution of data through various platforms without any central analytical system in place creates inconsistent usage of data, as well as decision-making based mostly on intuition.

Within this background, the internship that will be explained in this report is part of the master's degree in data Analytics for Business. The purpose of this experience was to use Data Analytics, Business Intelligence, and Information Management principles to design solutions that provide greater accessibility, performance management, and coordination within AIESEC in Portugal. In this case, the internship was designed to address data use and not simply focus on the execution of the tool itself. From an academic perspective, this project can be seen as adding to the discussion on data analytics/business intelligence implementation within the context of nonprofit or volunteer-led organizations. These types of organizations are unique environments with challenges involving decentralization, data management, resource availability, as well as diversity with respect to user profiles. Thus, there is an opportunity for reflection on data analytics tool implementation within an entirely different context than usual.

The report is organized as follows. Chapter 2 presents the literature review, addressing concepts related to business intelligence, data governance, information management, and analytics adoption in nonprofit organizations. Chapter 3 characterizes AIESEC and the organizational context of the internship. Chapter 4 describes the internship activities, tools, and methodologies applied. Chapter 5 analyses the results, limitations, and organizational impact of the work developed. Finally, Chapter 6 presents the conclusions and recommendations for future improvement.

2. Literature Review

2.1 Business Intelligence and Data Analytics for Decision-Making

BI and data analytics tools have assumed a new distinction with respect to decision-making, because of their natural ability to filter data in a complex environment. The primary purpose of a BI system is to turn data into something useful by structuring it.

Current research literature validates the positive link between analytics usage and decision-making quality. [Hjelle et al. \(2024\)](#) showed that decision-making was improved by using dashboards to address the complexity of tasks and information satisfaction, especially when the cognitive needs were met through visualization. This highlights the applicability of decision-making support using dashboards, particularly when decision-makers do not necessarily rely on advanced analytics capacity.

However, implementing effectively BI projects depends not only on the execution of the relevant technology but also on the adaptability of the organizations. According to [Al-Daraba et al. \(2025\)](#), data quality, organizational cultures, governance mechanisms, and the ability of the workers are some of the essentials for BI implementation and its effectiveness.

Collectively, these findings support that BI tools, and dashboards in general, may play a positive role in decision-making when properly integrated in appropriate processes within an organizational context.

2.2 Dashboard Design, KPIs, and Performance Measurement

The use of KPIs is clearly associated with the concept of dashboards. KPIs basically help in converting strategic goals and objectives into measurable variables. These act as a common point that helps in the measurement of performance.

[Velimirović et al. \(2011\)](#) have described Key Performance Indicators as financial and non-financial measures to which organizational long-term strategies are being achieved. They highlight the importance of having a small number of key performance indicators that are representative of

organizational performance and that the use of this system is successful if and only if the organizational process is standardized.

In relation to decision support, dashboards improve the interpretability of key performance indicators through graphical representations that encourage comparison and analysis of tendencies. According to [Hjelle et al. \(2024\)](#), visualization helps reduce the burden of processing information and in the making of informed decisions. The need for clarity, consistency, and simplicity when designing dashboards has been emphasized, especially where there are diversified user profiles.

In this way, the literature brings about the view of dashboards not as isolated reporting devices but as part of performance management systems in organizations.

2.3 Data Governance and Information Management

As pointed out by [Acev et al. \(2025\)](#), the fragmented character of data environments, especially in the case of decentralized organizations, requires governance approaches that adapt to such settings instead of applying strict governance controls. The maturity level of governance increases over time and requires a balance between coordination efforts and the autonomy of such environments. In a similar context, [Volz et al. \(2025\)](#) suggest that the data governance process in digital environments is a continuous process.

Together, these findings imply that it is likely that the structure of governance plays a more important role for success in analysis than the complexity of the tool for business intelligence. In the context of a lack of standardization, ownership, and validation, the potential of key performance indicators is threatened.

2.4 Knowledge Management and Organizational Memory

Organizations should treat the management of knowledge as a significant strategic asset. Knowledge Management (KM) is connected with creating, storing, sharing, and using knowledge in a way that helps an organization to be efficient and sustainable.

For example, [Mohajan \(2017\)](#) separates tacit knowledge, which is gained from personal experience, and explicit knowledge, which is written down and therefore can be shared among all

people working within a company. To maximize the effectiveness of KM, organizations need systems of KM to change the personal knowledge of individuals into common or shared business knowledge. This reduces the reliance on informal communication and helps organizations to reduce the loss of knowledge through employee turnover.

The author is also making the point that KM is not simply a technical project, but rather a process within an organization's social structure that requires organizational and cultural values, as well as the active participation of users. Centralized repositories, documentation systems and a standardized procedure for the storage of knowledge help to create an organizational memory, especially in environments where people are moving frequently or working in a voluntary capacity.

2.5 Analytics Adoption in Nonprofit and Decentralized Organizations

Nonprofit and volunteer-based organizations face unique obstacles to the implementation of BI and analytical tools. According to [Godefroid et al. \(2024\)](#), lack of financial resources, lack of relevant training, and resistance to changing the existing way of working are major factors affecting the use of technology by many nonprofit organizations. The limitations placed on these organizations by their financial resources require them to take little steps forward rather than making huge changes at once through technology.

[McCosker et al. \(2022\)](#) argue that data capability within nonprofit organizations is generated using iterative and participatory processes focusing on participation and learning from others rather than simply seeking to increase technical ability. Therefore, organizations engaged in creating analytic products need to place an emphasis on product usability and organizational fit as opposed to sophisticated functionality.

These findings are complemented by the work of [Pu et al. \(ACM\)](#) who discuss other common challenges faced by nonprofit organizations about their ability to integrate and use data. They illustrate how having multiple systems with differing standards of security prevent organizations from being able to analyze data with more detail than individual systems, and they discuss how these limitations can create inefficiencies within these organizations. Collectively these studies emphasize the need for organizations to align their analytical systems with their organizational capacity, governance processes, and cultural readiness to ensure success in utilizing them.

3. Organization Characterization

3.1 Overview of AIESEC

AIESEC is an international youth-led NGO whose emphasis is on creating a platform for developing leaders through international exchanges and participating in social cause-related projects (<https://aiesec.org/>). AIESEC is present in more than 100 countries divided into International, National and Local committees, so it has a decentralized Volunteer Governance structure that allows for members to have autonomy, engage in activities, and learn through the experience. While this type of structure provides for a wide range of members to participate and develop their leadership abilities, it can also provide challenges for coordinating activities and monitoring them. A lot of data is generated from information related to membership, program activity, partnerships, and performance indicators. The extent to which this information can be consolidated and used for decision-making depends largely on the maturity of local and national management teams, the availability of appropriate analytical tools, and the consistency of reporting routines across the organization.

3.2 AIESEC in Portugal

AIESEC in Portugal (<https://aiesec-pt.org/>) functions as the national coordinating body responsible for aligning the activities of 9 local committees with national and global strategic guidelines. The national team provides strategic direction and support to local entities, while day-to-day operations are executed at the local level by volunteer-led teams. This structure can result in a big variety of operational practices and management approaches.

In practice, each local committee maintains its own working routines, documentation formats, and reporting habits, leading to heterogeneous data-collection processes and inconsistent use of digital tools. Although national-level oversight exists, the absence of fully standardized procedures makes it difficult to ensure that information is recorded, shared, and interpreted in a uniform manner across committees. As a result, national-level analysis often relies on partially aggregated data, informal communication channels, or manually compiled reports, which limits the organization's capacity to develop an integrated and reliable overview of performance.

3.3 Organizational Challenges

The operational context of AIESEC in Portugal has highlighted numerous challenges that impose direct threats to the data governance, knowledge management and decision-making processes. The following list includes key areas where the organization is currently experiencing challenges:

1. **Fragmented Data and Lack of Integration:** Information is stored on multiple platforms or separately managed documents, therefore, it is difficult to consolidate and develop accurate reporting.
2. **Variations in Reporting & Interpretation of KPIs:** Due to the different practices between committees at the local level, they differ in how they document and interpret their performance indicators.
3. **Limited Access to Organizational Institutional Information:** Documentation and procedural knowledge are frequently stored informally or shared through different channels, reducing transparency and continuity.
4. **Reliance on Manual & Informal Processing:** The collection of data for national-level monitoring is often the result of individual reports compiled by committee members and/or informal communications between committee members instead of an analytical database.

These challenges are creating barriers to developing systematic performance analysis, creating cross-committee learning opportunities, and allowing for consistency when making strategic decisions based on evidence. These challenges provide the basis for implementing initiatives to centralize information, improve access to organizational data, and implement more uniform analytical practices.

This context forms the foundation for the internship activities described in Chapter 4, which were designed to address these constraints.

4. Internship Characterization

4.1 Internship Objectives & Context

The internship was developed within the scope of the master's degree in data Analytics for Business and was carried out in the organizational context described in Chapter 3. In addressing these challenges, this internship aimed to translate concepts and techniques from Data Analytics and Business Intelligence into practical solutions and frameworks, specifically designed to meet the needs of AIESEC in Portugal.

The primary objective of this internship was to improve the way that AIESEC in Portugal accesses, organizes, and uses data to facilitate a culture of evidence-based decision-making within the organization. Achieving this objective required the internship to focus on four key areas of intervention: 1) Designing and developing interactive dashboards for tracking AIESEC in Portugal's KPI's, 2) Building an internal hub for organizing and managing AIESEC in Portugal's information and knowledge assets, 3) Redesigning and launching AIESEC in Portugal's website, and 4) Managing the migration of aiesec.net emails to aiesec-pt.org.

These objectives were defined not only to respond to immediate operational needs, but also to contribute to the establishment of sustainable data and information practices that could continue to support the organization beyond the duration of the internship.

4.2 Tools and Technologies Used

The tools and technologies selected were based on a desire to connect previously disconnected data sources, enable collaborative management of information, and provide non-technical users with an opportunity to access those resources. The selection of tools considered both organizational limitations and readiness to take advantage of what was already available in technological resources affected their selections.

4.2.1 Looker Studio

Looker Studio was the primary tool for developing dashboards. This platform enables the integration of multiple data sources and provides real-time visualization capabilities. Through this platform, KPI's were aggregated and presented in a user-friendly format, supporting evidence-based decisions at both the national and local levels. Looker Studio was chosen because it **aligned with the organization's requirements**, allowed cloud-based access, and was suitable for non-technical stakeholders.

4.2.2 EXPA

EXPA is AIESEC's global operational platform ([Anex D](#)), used to manage member profiles, exchange programs, and organizational metrics. During the internship, EXPA served as a **primary data source** for dashboards and internal reports. Although it provides standardized global data, EXPA's reporting capabilities are limited, which requires additional processing before visualization.

4.2.3 Podio

Podio is a collaborative platform used by AIESEC in Portugal for project management ([Anex D](#)), task tracking, and internal coordination. Data from Podio was **extracted and combined** with EXPA and local data to build comprehensive dashboards and reports.

4.2.4 Excel

Microsoft Excel was used for **data preparation, transfer, and management**. Excel was crucial for the dashboard building to be able to integrate all the information in Looker Studio, and for the domain migration process, enabling structured handling of email accounts and other organizational data.

4.2.5 Hostinger and Google Workspace

The **website development** was implemented using Hostinger, a hosting platform that allowed design, deployment, and management of the organization's new website. This platform was used

due to the limited financial resources of the organization. For domain **creation and email management**, Excel was used to organize and transfer data, while **Google Workspace** handled the domain setup, email migration, and collaboration tools. This combination ensured a smooth transition from *aiesec.net* to *aiesec-pt.org* while maintaining operational continuity.

4.3 Activities Developed

The activities developed during the internship were directly derived from the objectives presented in Section 4.1.

4.3.1 Development of Dashboards

The development of dashboards represented one of the core components of the internship, addressing the absence of standardized mechanisms for monitoring KPI's across AIESEC in Portugal's different operational areas. The dashboards were structured **by product**, resulting in five independent dashboards ([Anex A](#)) corresponding to the main programs managed by the organization. This approach reflected the functional reality of the organization and enabled more detailed monitoring of performance at both national and local levels.

Data from EXPA, Podio, and locally maintained spreadsheets were cleaned, standardized, and integrated into Looker Studio, allowing each specific dashboard to present indicators such as program performance, pipeline evolution, and measures of success. Rather than functioning only as static reporting tools, the dashboards were designed to support exploratory analysis and comparative interpretation across committees and time periods, contributing to more structured and evidence-based performance discussions in team meetings and strategic reviews.

4.3.2 Creation of the Internal Information HUB

The internal information hub ([Anex C](#)) was developed as a password-restricted section within the organization's website, providing a centralized space for institutional knowledge, documentation, and operational guidelines accessible exclusively to AIESEC members. The decision to integrate the hub into the existing website, rather than developing a separate platform, was due to financial

constraints and the need to avoid purchasing an additional domain or hosting service, ensuring that the solution remained sustainable within the organization's available resources.

At the time of implementation, the initial phase focused on designing the structure and access model of the hub, establishing categories and navigation logic to support future content organization. Although only essential and introductory materials were initially available, the framework created enables the progressive expansion of content by the organization.

4.3.3 Website Development

The development of the website was implemented using the Hostinger platform, which had already been used by AIESEC in Portugal prior to the internship. The decision to continue using this service was both financially and operationally justified, as the organization was already paying for the hosting plan, while the previous website hosted on the platform was outdated and had limited functional or communicational value.

The new website ([Anex B](#)) was more coherent and had a structured digital interface, improving the accessibility of institutional information for members, partners, and external stakeholders.

4.3.4 Domain Migration and Email Transfer

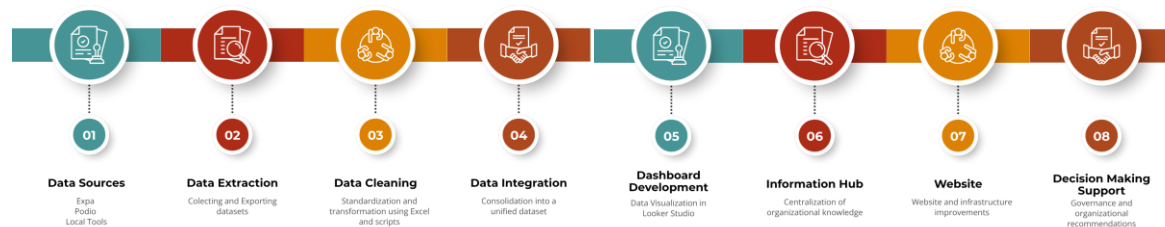
The domain and email migration process was carried out in response to a strategic and operational need. The previous domain, **aiesec.net**, was owned and managed by AIESEC International, which limited the national entity's ability to control email accounts, storage allocation, and access management. This dependency can generate risks, such as the potential deletion of accounts or loss of data due to centralized storage limitations.

To address this issue, all data was migrated to the domain **aiesec-pt.org**, allowing the organization to obtain full control over its email infrastructure and digital identity at the national level. The process involved organizing account structures, transferring existing data, and configuring Google Workspace to ensure continuity of communication ([Anex D](#)).

4.4 Methodologies Applied

The internship used a methodology which was built on a foundation of data analytic concepts, information management practices, and business intelligence strategies to craft solutions for problems which were already identified. In terms of methodology used in this scenario, there was information architecture design, as well as engagement processes for stakeholders.

The following diagram summarizes the implementation process adopted throughout the internship:



4.4.1 Data Analysis and Dashboard Development

A systematic data analysis workflow was adopted to transform fragmented operational data into meaningful insights. This workflow consisted of the following stages:

1. **Data collection:** Data was extracted from AIESEC’s global and local platforms, primarily EXPA and Podio.
2. **Data preparation:** Excel was used to clean, organize, and standardize data, addressing inconsistencies and ensuring data quality before visualization.
3. **Data integration:** Prepared datasets were integrated into Looker Studio, allowing multiple data sources to be combined into incorporated dashboards.
4. **Visualization and analysis:** Key performance indicators were visualized using charts, tables, and filters to support exploratory analysis and performance monitoring.
5. **Validation:** Dashboards were reviewed with stakeholders to ensure accuracy, relevance, and usability.

This workflow ensured that dashboards provided reliable and actionable information, supporting evidence-based decision-making.

4.4.2 Dashboard Design Principles

The visual and structural design of dashboards and the internal knowledge hub was guided by principles derived from business-intelligence and information-architecture literature. The following design guidelines were applied:

- **Relevance and focus** - Indicators were selected based on their alignment with strategic and operational objectives rather than on data availability alone.
- **Clarity and simplicity** - Visual elements were kept intentionally simple to avoid overload and ensure accessibility for users with different analytical backgrounds.
- **Consistency and comparability** - Metrics, terminology, and layouts were standardized across dashboards to facilitate interpretation and enable cross-committee analysis.
- **Interactivity** - Filters and selection options allowed users to navigate data by committee, and time period, encouraging active engagement with the information rather than passive consultation.

These principles supported the creation of analytical tools that were usable in practice and aligned with the organization's learning and coordination processes.

4.4.3 Information Management and Knowledge Centralization

The development of the internal information hub was based on **centralization, accessibility, and sustainability**. The process involved:

- identifying categories of information required by different teams,
- defining a navigation and content structure to organize documentation logically, and
- establishing common formats for templates and procedural resources.

The objective was to prioritize the creation of a stable and scalable information architecture, even though full content was planned as an ongoing organizational process beyond the internship period.

5. Results and Impact

The internship has improved data access, information management, and information infrastructure at AIESEC in Portugal. Contrary to focusing on how certain technology has been implemented, the deliverables from the internship are captured through how information is managed, accessed, and utilized for decision-making purposes. This chapter outlines the key organizational changes that have been made, including the constraints that have prevented their actualization and what the future holds.

5.1 Impact on Decision-Making and Performance Monitoring

The internship supported a transition from a more intuition-driven speech to a more organized way of monitoring performances. The concentration of essential indicators, as well as the use of visualized data, made the interpretation of results easier, improved comparability among the different local committees, and assisted in more informed discussions. While analytical knowledge is still in a developing phase, data has become a more consistent reference point in the coordination process.

5.2 Strengthening Information and Knowledge Governance

The second major impact that can be mentioned is associated with the coordination and organization of information flow within this institution. The setting up of a centralized framework for document management and digital organization meant a big change in informal communication and personal management of memory data.

5.3 Enhancement of Digital Autonomy and Infrastructure

The internship also contributed to greater stability and autonomy in the organization's digital infrastructure. The restructuring of the website and the consolidation of the domain strengthened organization control, security, and long-term maintenance. These outcomes increased the reliability of operational systems and provided a more consistent foundation for future initiatives reducing the risk of data loss.

5.4 Limitations

Despite the positive outcomes of the internship, several limitations were identified that limited the potential of the implemented solutions.

One of the main limitations was associated with the use of **Looker Studio** as the primary business intelligence tool. Although the platform is suitable for basic data visualization and was selected due to organizational requirements, it presents restricted capabilities in terms of data modeling, transformation, and advanced analytics. As a result, a significant portion of data preparation had to be performed externally using Excel, increasing manual effort and the risk of inconsistencies. Compared to alternative tools such as Power BI, Looker Studio offers limited scalability and analytical depth, which may hinder the long-term development of more advanced data-driven practices.

Another relevant limitation was the **dependency on global platforms**, EXPA and Podio. While these platforms store critical operational data, access to certain information and the connection of data from both platforms is hard even though they are dependent. This dependency reduces flexibility in data extraction and constrains the ability to perform more comprehensive or customized analyses.

A further challenge was related to the **organizational structure**. The organization operates through nine local offices, each managed autonomously by a local president, while the national team provides guidelines rather than enforcing standardized operational procedures. This decentralized structure leads to heterogeneous practices across local offices, including differences in data collection methods, reporting formats, and interpretations of key performance indicators. Consequently, data aggregation, comparison, and analysis at the national level become more complex and less reliable.

6. Recommendations and Future Improvements

Although the internship was helpful to improve visibility and support decision-making, the long-term sustainability of these solutions depends on the implementation of structured governance practices and scalable data infrastructure. The following recommendations aim to support the

continued evolution of AIESEC in Portugal and reduce the risk of inconsistency, fragmentation, and loss of organizational knowledge over time.

6.1 KPI Standardization

One of the challenges identified throughout the internship was the uniformity in the definition of the key performance indicators among the local committees. In several situations, metrics were interpreted differently depending on the team or context.

To improve consistency, KPI definitions should be standardized at the national level. This includes clearly defining how each KPI is calculated, updated, and interpreted.

6.2 Data Ownership and Responsibilities

Another important recommendation is the establishment of clear responsibilities regarding data management and maintenance. During the internship, it became evident that the absence of defined ownership increased the risk of inconsistent updates and reduced accountability regarding data quality.

To address this issue, specific teams or organizational roles should be responsible for maintaining dashboards, validating data quality, updating documentation, and ensuring that information remains accurate over time.

This governance structure would reduce dependency on individual members and improve continuity despite the organization's recurring recruitment cycles and high turnover environment.

6.3 Access Control and GDPR Compliance

Given the type of data used throughout the internship it is essential to strengthen governance mechanisms related to privacy and data protection.

There should be controls on the access to sensitive data and dashboard views depending on the responsibilities and operations within the organization.

Additionally, exported datasets should be anonymized whenever possible, and clear guidelines regarding data storage, sharing, and retention should be established to ensure compliance with the General Data Protection Regulation (GDPR).

It is especially critical in the context of decentralized organizations where more than one person is accessing organizational data at once.

6.4 Data Input and Quality Management

The reliability of dashboards and analytical output depends directly on the quality of the data used during the export and transform process. Throughout the internship, inconsistencies related to formatting, missing values, and duplicated information required additional cleaning.

To reduce these issues in the future, it is recommended that there be standardized approaches to data entry and updates. This includes establishing consistent naming conventions, mandatory fields, standardized date formats, and validation rules.

6.5 Data Literacy and Organizational Adoption

One of the main conclusions of this work is that the success of Business Intelligence initiatives depends not only on technological implementation, but also on organizational adoption.

The fact that AIESEC has a high turnover and every 6 months recruits new people, continuous capacity building related to data literacy should be integrated into onboarding and training processes. Members should understand how to interpret dashboards, analyze KPIs, and use data to support operational and strategic decisions.

Additionally, dashboards and reports should become part of their routine, such as monthly performance reviews, ensuring that the use of the data becomes part of the organization's culture.

6.6 Proposed Data Warehouse Architecture

The current analytical infrastructure still depends heavily on manual workflows and spreadsheet-based integration processes. While this approach was appropriate considering the organization's

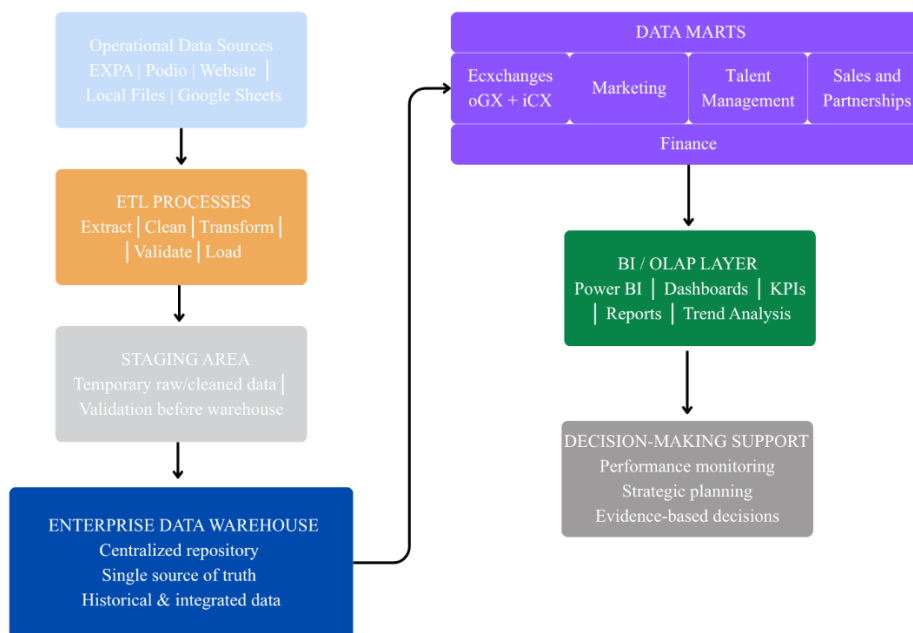
operational constraints and level of analytical maturity, it presents limitations regarding scalability, automation, integration, and long-term sustainability.

A complete analytical environment should include data sources, integration processes, centralized storage, analytical layers, governance mechanisms, and Business Intelligence tools.

Based on these principles, the ideal future solution for AIESEC in Portugal would be the implementation of a centralized cloud-based Enterprise Data Warehouse (EDW) architecture, because it addresses the main organizational and analytical challenges identified throughout the internship.

Proposed Architecture

The proposed architecture would follow the structure below:



Operational Systems and Data Sources

As discussed throughout the project, one of the main challenges identified within the organization was the fragmentation of information across multiple operational systems.

This situation reflects one of the core problems addressed by Data Warehousing methodologies: the existence of isolated operational systems optimized for transactions rather than decision-making.

In the proposed architecture, these systems would function as operational data sources (OLTP systems), responsible for supporting the organization's daily activities.

Examples of operational sources would include:

- EXPA for applications, approvals, and exchange operations.
- Podio for sales funnel and customer data.
- Website forms for recruitment and lead generation.
- Local spreadsheets for committee-level operational tracking.

ETL Processes

The ETL layer would be responsible for automatically extracting, transforming, and loading data from the operational systems into the analytical environment.

Currently, much of this work is performed manually through Excel-based cleaning and integration processes. However, according to Data Warehousing principles, ETL processes should centralize and standardize data transformation activities.

The ETL process would include:

- extraction of data from Expa, Podio and spreadsheets.
- cleaning inconsistent or duplicated values.
- standardization of naming conventions and date formats.
- validation of mandatory fields.
- anonymization of sensitive information when necessary.
- loading of structured data into the warehouse.

This automation would significantly reduce manual intervention and improve consistency across all analytical processes.

Staging Area

Before being loaded into the warehouse, extracted data would first pass through a staging area.

The staging layer would temporarily store raw extracted data before transformation and integration. This approach would improve reliability and allow validation procedures before loading information into the final warehouse environment.

Enterprise Data Warehouse (EDW)

The proposed architecture would be based on a centralized Enterprise Data Warehouse (EDW), following a dependent data mart architecture.

A dependent data mart architecture is characterized by the existence of a centralized enterprise-wide warehouse that functions as the organization's "single source of truth."

This approach is particularly suitable for AIESEC because it would:

- reduce inconsistencies between local committees.
- centralize KPI definitions.
- improve governance.
- support organizational scalability.
- simplify reporting processes.

Additionally, the warehouse would support analytical rather than transactional operations, functioning as an OLAP-oriented environment for decision-making support.

Data Modelling Approach

The proposed warehouse would follow a dimensional modelling approach using fact and dimension tables.

Fact tables would store measurable operational events, such as:

- Applications.

- Meetings.
- Opens.
- Approvals.
- Realizations.

Dimension tables would store descriptive business entities, such as:

- Local committees.
- Products.
- Countries.
- Dates.
- Statuses.
- Opportunities category.

This structure would support multidimensional analysis and KPI calculations across different perspectives.

Additionally, the model would be partially denormalized to optimize analytical query performance, following OLAP modelling principles discussed throughout the classes.

Data Marts

From the centralized warehouse, specialized data marts could be developed for specific organizational areas.

Possible data marts for AIESEC could include:

- Exchanges Data Mart.
- Marketing Data Mart.
- Talent Management Data Mart.
- Partnership and Sales Data Mart:
- Finance Data Mart.

This structure would improve analytical accessibility while maintaining centralized governance and consistency.

BI and OLAP Layer

The final analytical layer would consist of Business Intelligence tools connected directly to the warehouse environment.

In this proposed architecture, Power BI would be recommended as the primary visualization and analytical platform due to its scalability, automation capabilities, advanced data modelling support, and integration with centralized warehouse environments.

Dashboards would support:

- KPI monitoring.
- Conversion rate analysis.
- Funnel analysis.
- Local committee performance.
- Strategic reporting.
- Historical trend analysis.

This layer would support OLAP-style analytical processes designed for decision-making activities rather than operational transaction processing.

Governance and Scalability

A centralized data warehouse architecture would also strengthen governance practices across the organization.

Governance mechanisms would include:

- Standardized KPI definitions.
- Role-based access control.
- GDPR compliance.
- Data ownership responsibilities.
- Metadata documentation.
- Historical data retention.

- Centralized reporting standards.

This architecture would reduce fragmentation between local committees and improve long-term sustainability of the analytical environment.

7. Conclusion

This internship showed how data-analytics and information-management practices can contribute to increasing the coordination, knowledge governance, and decision-support processes within a decentralized nonprofit organization. Although this study focuses specifically on AIESEC in Portugal, many of the challenges identified, such as decentralized decision-making, fragmented data sources, high member turnover, and limited data governance, are common across non-governmental organizations. Therefore, the findings and recommendations presented may provide useful insights for other NGOs seeking to implement Business Intelligence and data-driven decision-making practices.

From an analytical perspective, the internship demonstrated that the value of data-driven initiatives depends less on technology and more on governance, standardization, continuity, and user adoption. The internship highlighted the challenges of implementing analytical practices in a volunteer-based structure, including heterogeneous reporting cultures and limited capacity, while also demonstrating that solutions adapted to the organization's operational reality can generate meaningful improvements.

The internship also contributed to the development of competencies in data analysis, information architecture and change adaptability in limited environments. Interaction with diverse organizational stakeholders reinforced the importance of communication, iteration, and suitable decision-making for different environments.

Looking ahead, the consolidation of a sustainable data-informed culture in AIESEC in Portugal will depend on increasing data-governance mechanisms, standardizing performance indicators, expanding the use of centralized information structures, and investing in data-literacy development among members. The foundations established through this internship provide a basis upon which the organization can continue to evolve toward more consistent, reliable, and strategically oriented use of information in its decision-making processes.

8. References

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9. Annexes

Appendix A - Dashboard Development

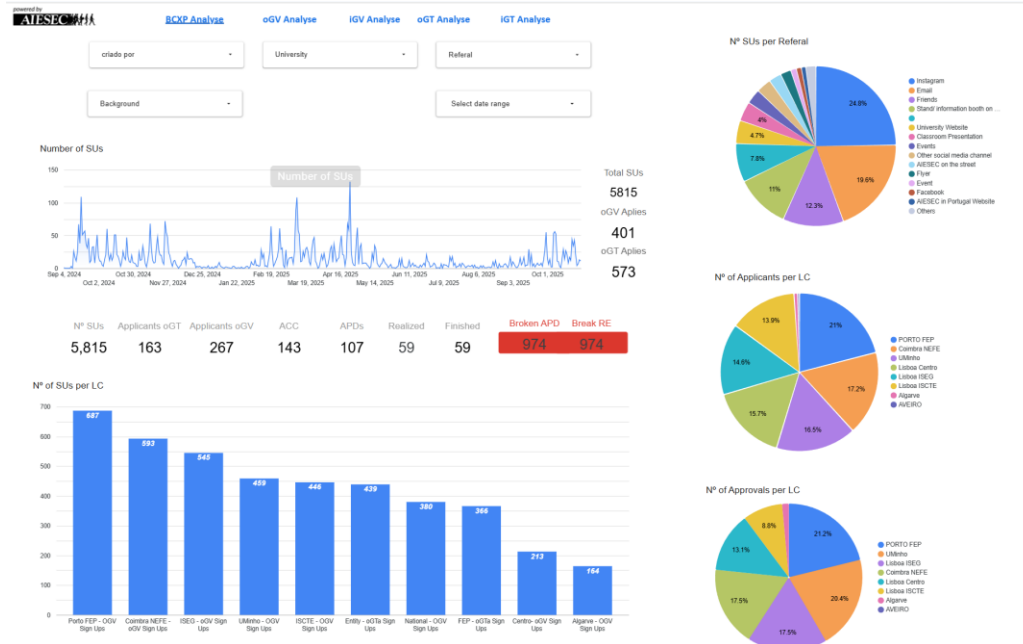


Figure A.1: oGX Overview

Link: <https://lookerstudio.google.com/reporting/708a1aa5-e5e2-4a73-a255-6844a51c69a8/page/Sh9XF>

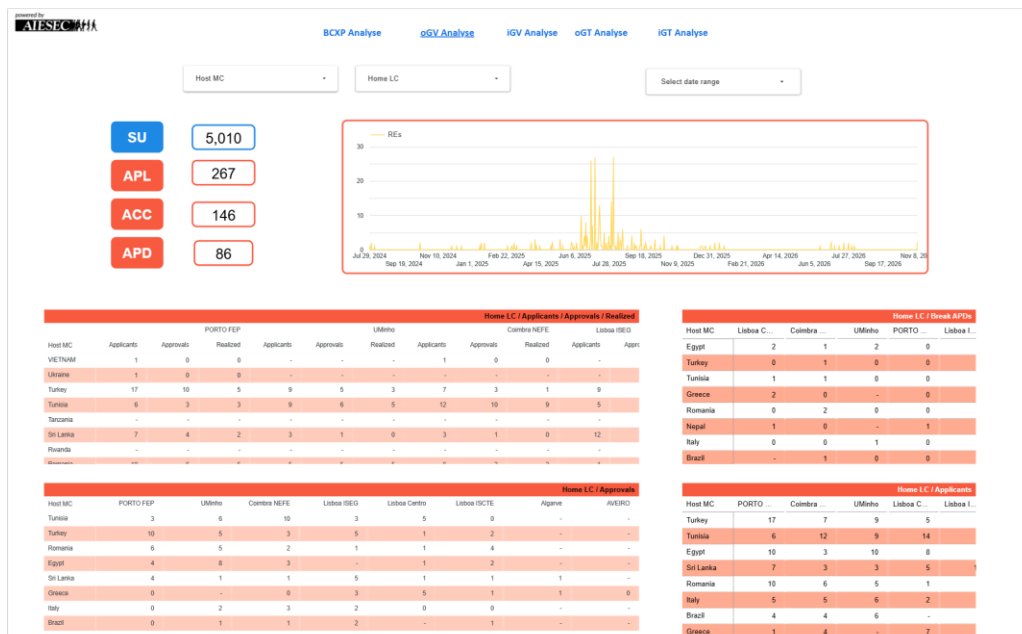


Figure A.2: oGV Overview

Link: https://lookerstudio.google.com/reporting/708a1aa5-efe2-4a73-a255-6844a51c69a8/page/p_8uwy3ljdw

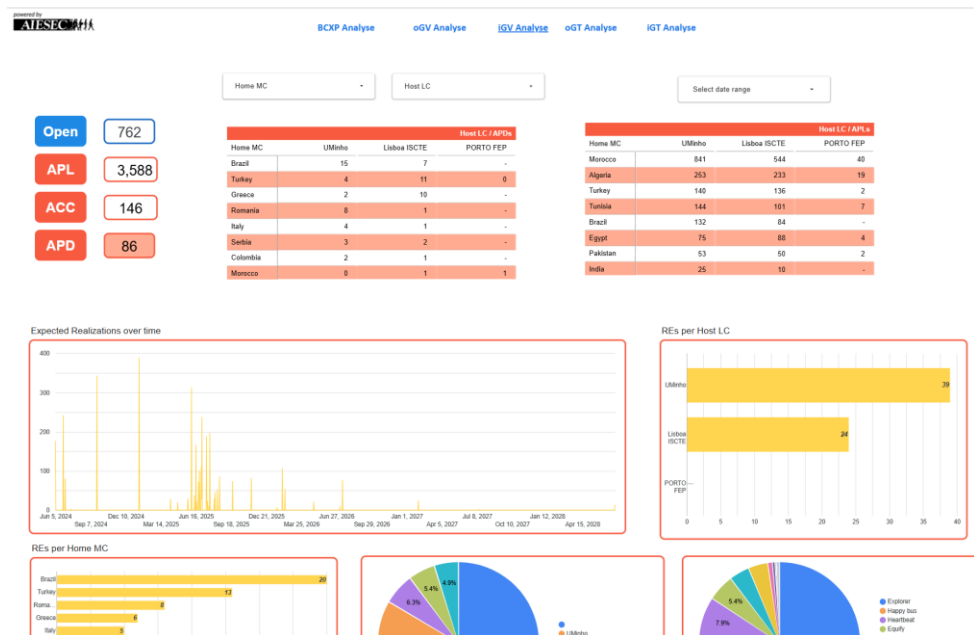


Figure A.3: iGV Overview

Link: https://lookerstudio.google.com/reporting/708a1aa5-efe2-4a73-a255-6844a51c69a8/page/p_180syku8vd

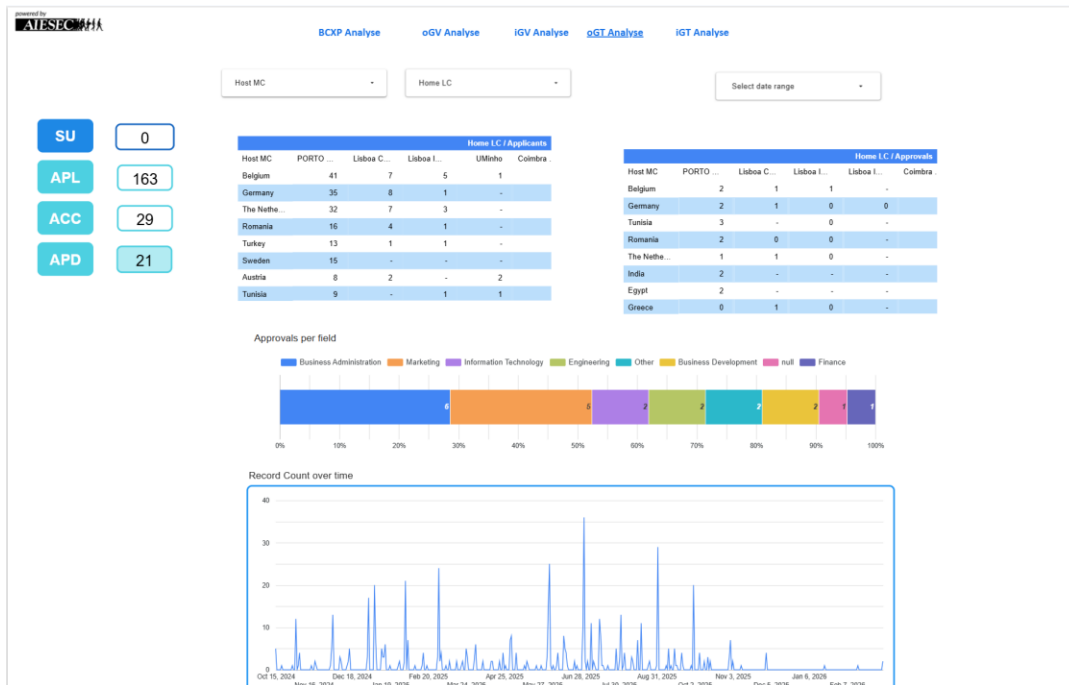


Figure A.4: oGT Overview

Link:

https://lookerstudio.google.com/reporting/708a1aa5-efe2-4a73-a255-6844a51c69a8/page/p_acqwvqlwdw

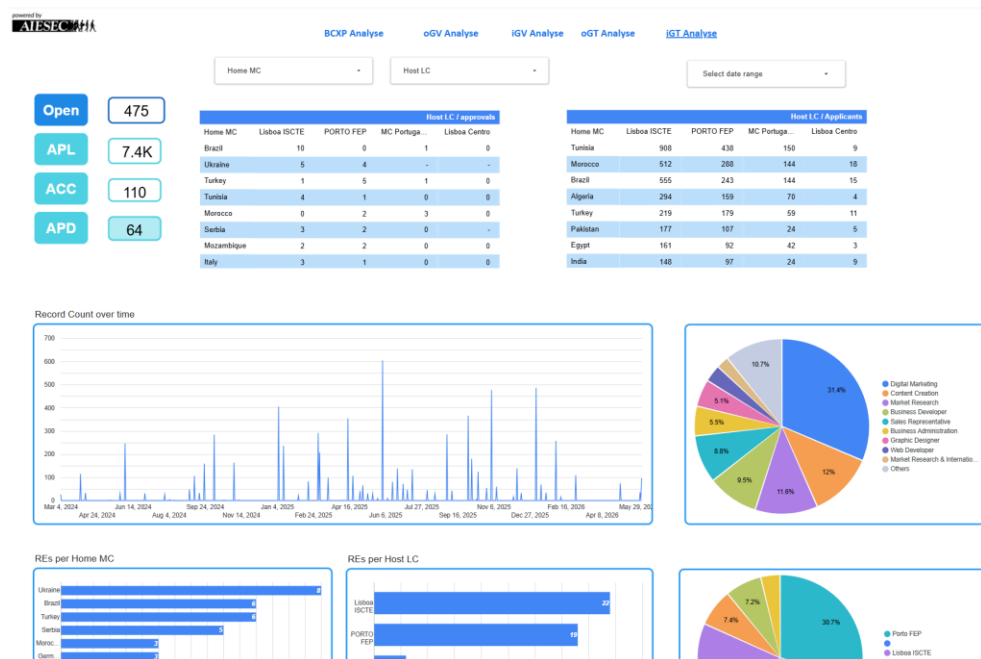


Figure A.5: iGT Overview

Link:

https://lookerstudio.google.com/reporting/708a1aa5-efe2-4a73-a255-6844a51c69a8/page/p_iw6autndwd

Appendix B - National Website

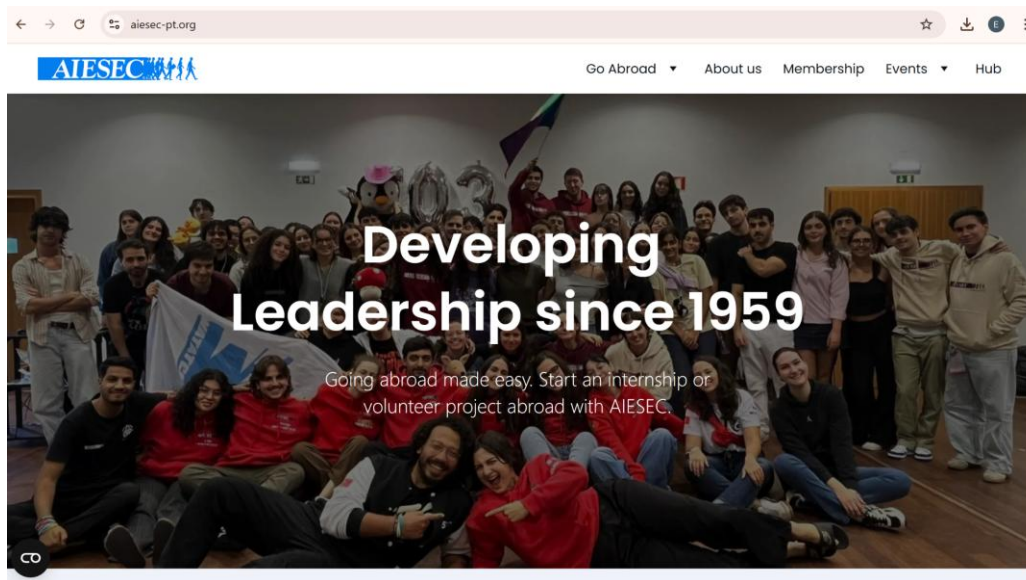


Figure B.1: Homepage of the national website developed for AIESEC in Portugal.

Link: <https://aiesec-pt.org/>

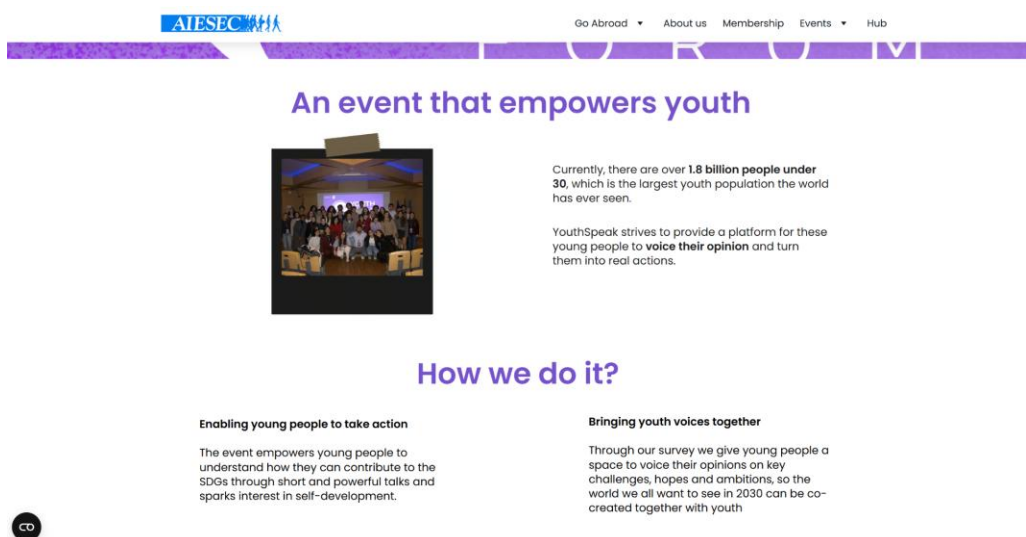


Figure B.2: Example of Internal navigation of the website.

Link: <https://aiesec-pt.org/youth-speak-forum>

Appendix C - Internal Information Hub

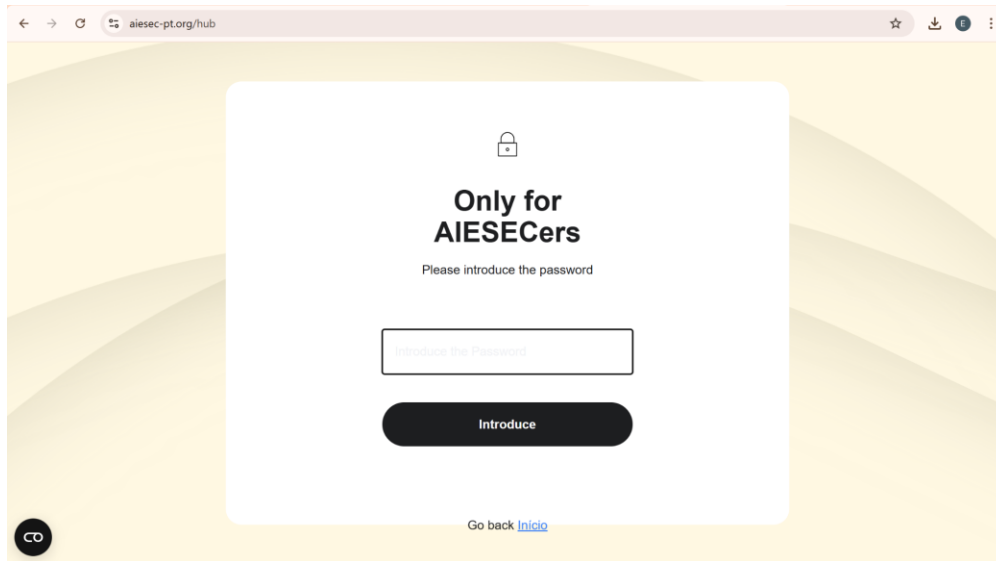


Figure C.1 Login interface of the internal information hub integrated into the national website.

Link: <https://aiesec-pt.org/hub>

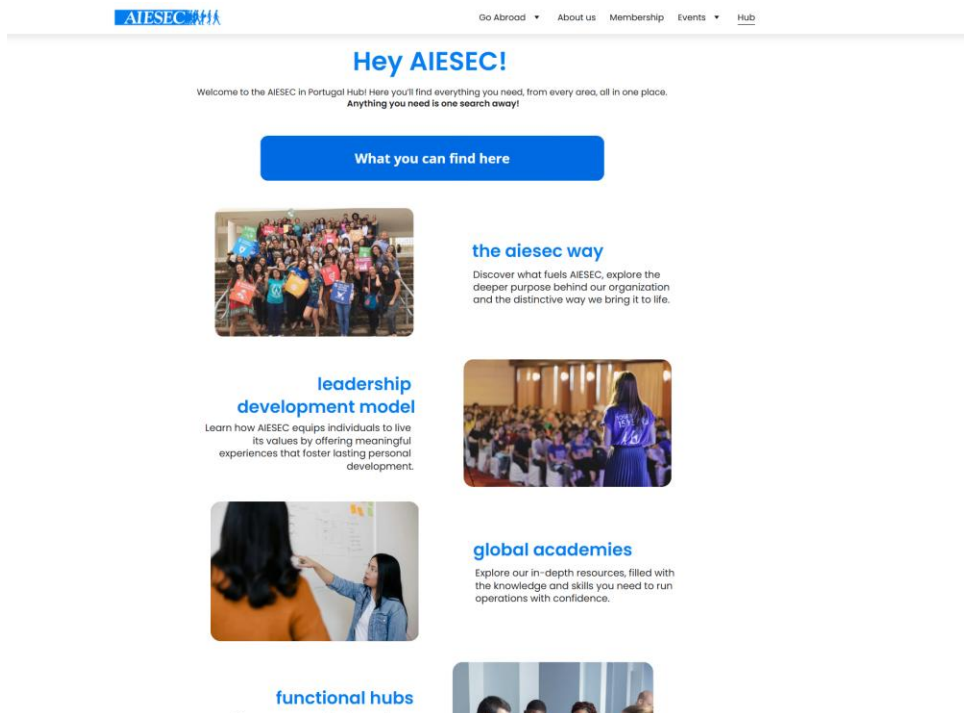


Figure C.2 Overview of the internal information hub structure

Link: <https://aiesec-pt.org/hub>

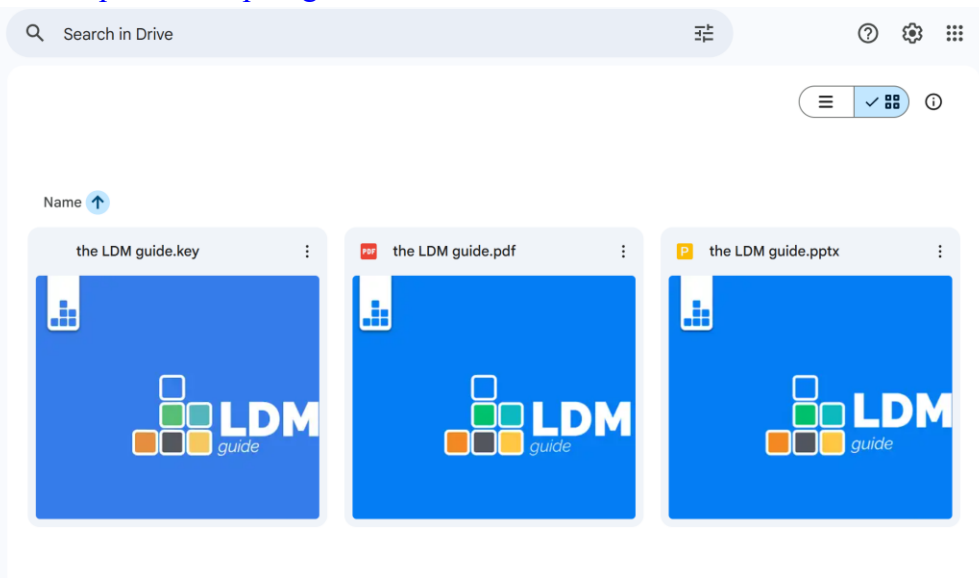


Figure C.3 Example of introductory content currently

Appendix D - Data Sources and Data Processing

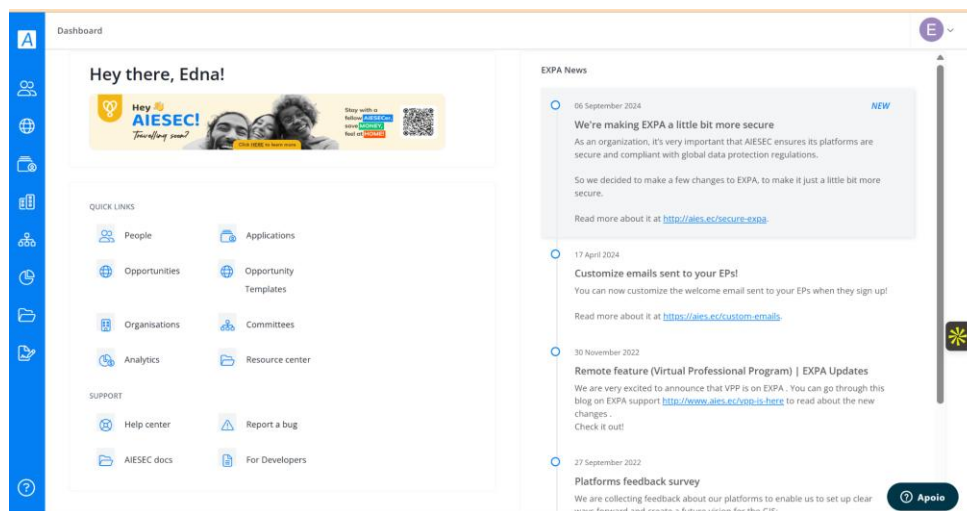


Figure D.1 EXPA structure overview

Link: <https://expa.aiesec.org/>

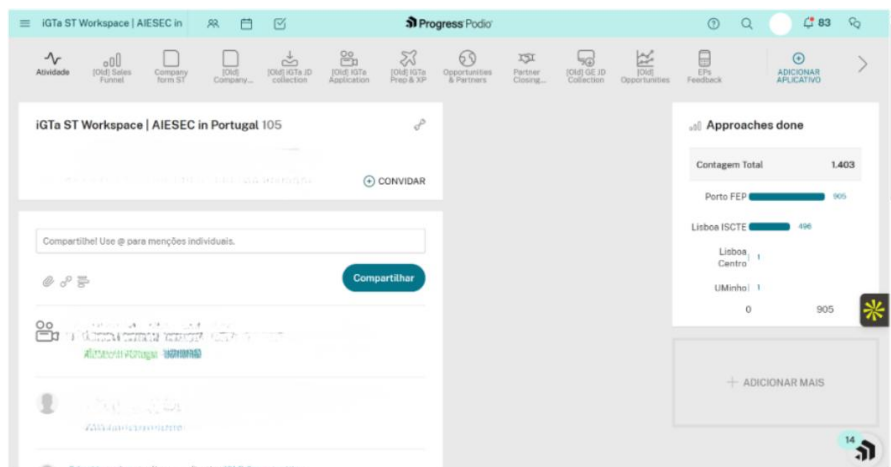


Figure D.2 Podio Structure Overview

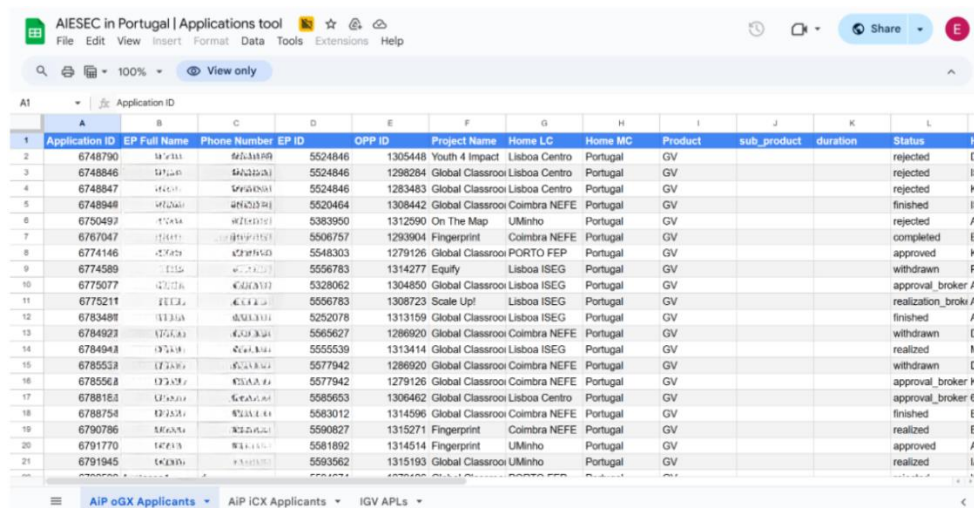


Figure D.3 Excel File 1 (Applications tool)

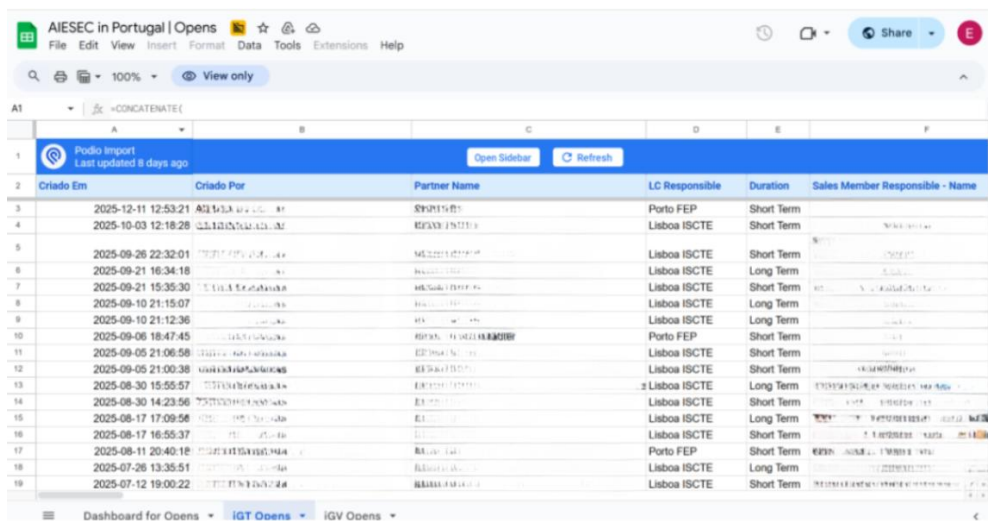


Figure D.4 Excel File 2 (Opens Tool)

The screenshot shows an Excel spreadsheet with the following data:

	A	B	C	D	E
	criado em	criado por	Primeiro Nome	Último Nome	Universidade
2	Oct 2025	UMinho - OGV Sign Ups	15-14	Felicia	Universidade do Porto
3	Oct 2025	UMinho - OGV Sign Ups	15-14	Rafael	Universidade do Porto
4	Oct 2025	UMinho - OGV Sign Ups	15-14	Elisabela	Universidade do Minho
5	Oct 2025	UMinho - OGV Sign Ups	15-14	Elisabela	Universidade do Minho
6	Oct 2025	UMinho - OGV Sign Ups	15-14	Elisabela	Universidade do Minho
7	Oct 2025	UMinho - OGV Sign Ups	15-14	Elisabela	Universidade do Minho
8	Oct 2025	UMinho - OGV Sign Ups	15-14	Elisabela	Universidade do Minho
9	Oct 2025	UMinho - OGV Sign Ups	15-14	Elisabela	Universidade do Minho
10	Oct 2025	UMinho - OGV Sign Ups	15-14	Elisabela	Universidade do Minho
11	Oct 2025	UMinho - OGV Sign Ups	15-14	Elisabela	Universidade do Minho
12	Oct 2025	UMinho - OGV Sign Ups	15-14	Elisabela	Universidade do Minho
13	Oct 2025	UMinho - OGV Sign Ups	15-14	Elisabela	Universidade do Minho
14	Oct 2025	UMinho - OGV Sign Ups	15-14	Elisabela	Universidade do Minho
15	Oct 2025	UMinho - OGV Sign Ups	15-14	Elisabela	Universidade do Minho
16	Oct 2025	UMinho - OGV Sign Ups	15-14	Elisabela	Universidade do Minho
17	Oct 2025	UMinho - OGV Sign Ups	15-14	Elisabela	Universidade do Minho
18	Oct 2025	UMinho - OGV Sign Ups	15-14	Elisabela	Universidade do Minho
19	Sep 2025	UMinho - OGV Sign Ups	15-14	Elisabela	Universidade do Minho
20	Sep 2025	UMinho - OGV Sign Ups	15-14	Elisabela	Universidade do Minho
21	Sep 2025	UMinho - OGV Sign Ups	15-14	Elisabela	Universidade do Minho

Figure D.5 Excel File 3 (Sign Ups Tool)

The screenshot shows an Excel spreadsheet with the following data:

	A	B	C	D	E	F	G
	First Name [Required]	Last Name [Required]	Email Address [Required]	Password [Required]	Org Unit Path [Required]	Recovery Email	Change Password on Sign-In
2	Elisabela	15-14	15-14	/	/		TRUE
3	Elisabela	15-14	15-14	/	/		TRUE
4	Elisabela	15-14	15-14	/	/		TRUE
5	Elisabela	15-14	15-14	/	/		TRUE
6	Elisabela	15-14	15-14	/	/		TRUE
7	Elisabela	15-14	15-14	/	/		TRUE
8	Elisabela	15-14	15-14	/	/		TRUE
9							
10							
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21							

Figure D.6 Excel File for the domain migration