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Assessing the Contribution of ERASMUS+ KA2 Projects to the SDGs: An Exploratory Analysis †

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Abstract

This study examines the contribution of ERASMUS+ Key Action 2 (KA2) projects, funded between 2014 and 2020, to the dissemination and promotion of the United Nations Sustainable Development Goals (SDGs). A predominantly quantitative content analysis was conducted based on metadata extracted from the official European Commission database, focusing on the presence of SDG-related keywords within the titles, topics, and abstracts of the projects. In total, 24,838 KA2 projects were examined. The findings reveal a growing alignment between funded projects and certain SDGs, particularly SDG 3 (Good Health and Well-being), SDG 4 (Quality Education), SDG 13 (Climate Action), SDG 7 (Affordable and Clean Energy), and SDG 9 (Industry, Innovation, and Infrastructure). In contrast, goals such as SDG 2 (Zero Hunger), SDG 6 (Clean Water and Sanitation), and SDG 14 (Life Below Water) are scarcely represented. Overall, the results demonstrate an increasing commitment to sustainability themes over time and also highlight notable gaps in the promotion of several SDGs. This analysis offers valuable insights into the strategic alignment of ERASMUS+ funding with the 2030 Agenda and identifies opportunities for strengthening its future contributions to sustainable development.

Keywords: ERASMUS+; sustainable development goals; higher education; academic mobility; innovation

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1. Introduction

The ERASMUS+ program stands as one of the European Union's flagship initiatives for educational mobility and institutional cooperation [1]. Since its launch in 1987, it has played a pivotal role in advancing education, training, youth, and sport across Europe, offering international exchange and learning opportunities for students, educators, and organizations alike. The program is structured around three key action lines: (1) learning mobility of individuals; (2) cooperation among organizations and institutions; and (3) support for policy development and cooperation.

In this study, we focus our analysis on the second action line of the program, ERASMUS+ KA2 projects, which corresponds to "Cooperation for Innovation and the Exchange of Good Practices". Between 2014 and 2020, this line included a variety of funding calls targeting specific sub-actions, as presented in Table 1 [2].

Table 1. General structure and characteristics of the sample analyzed (ERASMUS+ KA2 2014–2020).

KA2 Action Sub-Line	Activity Period	Overview	Main Focus	More Associated SDGs *
Strategic Partnerships (HE/VET/School/Adult/Youth)	2014–2020	Sub-line with greater breadth and diversity of projects; includes inter-institutional cooperation and pedagogical innovation.	Educational cooperation, skills, innovation	ODS 4, 9, 10
Capacity Building in Higher Education	2014–2020	It supports modernization and internationalization projects in higher education in partner countries.	Modernization of higher education, international cooperation	ODS 4, 17
Knowledge Alliances/Sector Skills Alliances	2014–2020	Strategic partnerships between universities and companies; focus on innovation and employability.	Innovation, entrepreneurship, sectoral skills	ODS 8, 9
School Exchange Partnerships	2018–2020	It promotes exchanges and cooperation between primary and secondary schools.	Basic education, interculturality, inclusion	ODS 4, 10
Partnerships for Creativity	2020	Introduced in 2020 to support creativity and cultural and creative industries.	Culture, creativity, well-being	ODS 4, 11, 12
Partnerships for Digital Education Readiness	2020	Response to the COVID-19 pandemic; focus on digitalization of teaching and digital skills.	Digital education, pedagogical innovation	ODS 4, 9
European Universities	2019–2020	Transnational networks of European universities to promote mobility, excellence and innovation.	Integrated higher education, internationalization	ODS 4, 9, 17
Total (2014–2020)	—	Universe of 24,838 funded projects (according to European Commission database).	—	—

* SDGs associated based on the thematic predominance of the keywords in the analyzed metadata of this study.

In recent years, there has been a growing global interest in issues related to sustainable development. The 2030 Agenda for Sustainable Development, adopted by the United Nations in 2016, established a comprehensive and ambitious framework comprising 17 Sustainable Development Goals (SDGs) aimed at addressing pressing global challenges such as poverty, inequality, climate change, and environmental degradation [3].

The overall objectives of the ERASMUS+ program demonstrate a clear alignment with these goals, particularly in areas concerning inclusive education, innovation, and international cooperation. Several studies have highlighted the connections between the ERASMUS+ framework and the promotion of the SDGs, showing how mobility and cooperation projects contribute to sustainability-related SDGs [4–6].

In this context, the following research question arises: To what extent have ERASMUS+ KA2 projects contributed to the promotion of the Sustainable Development Goals (SDGs)?

The relevance of this analysis lies in understanding the degree to which European cooperation policies in education are aligned with the SDGs, and how these policies might be improved to maximize their global impact [4]. This article, therefore, aims to assess the role of ERASMUS+ KA2 projects as a catalyst for implementing the SDGs, exploring their thematic impact, and identifying potential areas for improvement. It is important to note that the data available on the program's official platform is complete only for the period between 2014 and 2020, which defines the scope of this study.

Based on this overarching research aim, we propose two specific research questions (RQ):

RQ1. To what extent did the ERASMUS+ KA2 projects approved between 2014 and 2020 disseminate the fundamentals of the Sustainable Development Goals (SDGs) in the education system?

RQ2. Which SDGs are represented in the funded proposals, and which are underrepresented or absent over the period analyzed?

Although various studies have explored the educational and cultural benefits of international mobility programs like ERASMUS+, and others have drawn connections between the programs' overarching objectives and the SDGs [5,7,8], there remains a notable gap in research that specifically addresses the direct contribution of such programs to each SDG. In particular, little attention has been paid to how funding is distributed across SDG-related initiatives within ERASMUS+ projects [6].

This gap represents a significant opportunity for future research, especially to investigate how the competencies and knowledge acquired through these programs are applied in the advancement of each SDG [9,10]. Longitudinal studies that examine the lasting impact of participation in mobility programs on sustainable behaviors and practices are especially urgent [10–12]. Exploring how former participants apply their acquired skills to promote the SDGs, within their communities, professional environments, or civic initiatives, could yield critical insights into the long-term effectiveness and transformative potential of these international education programs [9,13–15]. Based on these gaps, the present study seeks to quantify and interpret the presence of the SDGs in Erasmus+ KA2 projects, as well as to identify associated distribution and funding trends.

This study offers a systematic reading of the alignment of ERASMUS+ KA2 projects (2014–2020) with the SDGs based on standardized metadata (title, topics, keywords and abstract) available on the official platform of the European Commission. Although the literature recognizes the contribution of this program to sustainability and educational innovation, the distribution by SDGs and the temporal evolution of funding by themes remain little explored [5,6,8,16]. By filling this gap, this article quantifies SDG attendance and absences, tracks trends, and identifies underrepresented areas (e.g., SDGs 2, 6, and 14), providing useful evidence for the design of future calls and for the implementation of the 2030 Agenda in the education sector.

In this analysis, we do not aim to evaluate the outcomes or impacts of the funded projects, but rather to assess their initial intent, as reflected in the title, keywords, and summary of each project. Assessing the actual results would be methodologically complex, primarily due to the lack of standardization in how project outcomes are reported across different initiatives. Furthermore, not all projects make their final outputs available in the public database to which we have access (https://erasmus-plus.ec.europa.eu/projects/projects-lists (accessed on 21 September 2025)).

2. Conceptual Framework: The Sustainable Development Goals and Education

2.1. General Framework

The 17 Sustainable Development Goals (SDGs), established by the United Nations (UN) in 2015, form a comprehensive global agenda aimed at eradicating poverty, protecting the environment, fostering international cooperation for sustainable development, and promoting sustainable production and consumption. Their overarching goal is to ensure that all people can enjoy peace and prosperity by 2030 [17]. These goals encompass a broad spectrum of sustainability challenges, including health, education, gender equality, and climate change. Among these, education is recognized as a key enabler for achieving the

SDGs, as it equips individuals with the knowledge, skills, and values necessary to improve their quality of life and seize new opportunities [18].

2.2. Education as a Catalyst for Sustainable Development

UNESCO highlights education as one of the most essential pillars for sustainable development. SDG 4 not only advocates for inclusive and equitable quality education for all but also fosters individuals' awareness, critical thinking, and capacity to address global challenges, such as gender equality (SDG 5) and climate action (SDG 13). In a study aiming to evaluate and forecast the achievement of the SDG 4 targets, a significant increase in primary school enrolment was observed, from 50.1% in 1970 to 83.2% in 2018, with projections suggesting it may reach 89.4% by 2030 [19].

However, secondary and higher education trends vary significantly depending on countries' development levels. In 1970, 50% of the population aged 25–29 in highly educated regions had already completed 12 years of schooling, while in other regions, completion rates were at or below 10%. In terms of higher education, although overall global completion rates remain low, substantial growth has been recorded between 1970 and 2018, and this trend is expected to continue in the coming decade. Notably, Eastern Europe and Central Asia display high completion rates, with half of their population projected to complete tertiary education by 2030. Encouraging progress has also been documented in North Africa, the Middle East, Southeast Asia, East Asia, and Oceania, with much of this expansion occurring after 2000 [19].

Despite global implementation efforts, considerable work remains to be performed, particularly in the area of education. In the European Union, for example, an analysis of sustainability indicators linked to SDG 4 showed that by 2018, only Sweden, Luxembourg, and the Netherlands had achieved high levels of educational sustainability [20]. In contrast, in countries with different socioeconomic characteristics, such as Bahrain, Kuwait, Oman, Qatar, Saudi Arabia, and the United Arab Emirates, a systematic review of sustainability education literature emphasized key themes such as the conceptualization and assessment of sustainability and the integration of these topics into national curricula [21].

In this context, international education frameworks such as the ERASMUS+ program play a vital role. They help equip students with a global perspective and the skills needed to address cross-border and international challenges, thereby supporting the broader goals of the 2030 Agenda.

2.3. Impact of Exchange Programs on the Promotion of the SDGs

International exchange programs, such as ERASMUS+, are powerful instruments for fostering intercultural understanding and international cooperation. Studies by authors such as Vossensteyn et al. and Beerkens and Vossensteyn have shown that participation in mobility programs enhances students' awareness of global challenges and stimulates the development of sustainable and innovative solutions [22,23]. These programs also facilitate the creation of transnational networks, which are crucial for the effective implementation of the Sustainable Development Goals (SDGs) [22,23].

2.4. Gaps and Opportunities in the Existing Literature

Although various studies have explored the educational and cultural benefits of international mobility programs like ERASMUS+, and others have drawn connections between the programs' overarching objectives and the SDGs [5,7], there remains a notable gap in research that specifically addresses the direct contribution of such programs to each SDG. In particular, little attention has been paid to how funding is distributed across SDG-related initiatives within ERASMUS+ projects.

This gap represents a significant opportunity for future research, especially to investigate how the competencies and knowledge acquired through these programs are applied in the advancement of each SDG [5,10]. Longitudinal studies that examine the lasting impact of participation in mobility programs on sustainable behaviors and practices are especially urgent [11,12]. Exploring how former participants apply their acquired skills to promote the SDGs, within their communities, professional environments, or civic initiatives, could yield critical insights into the long-term effectiveness and transformative potential of these international education programs [9,13,14].

3. Methodology

3.1. Study Type and General Approach

In this study, "metadata" refers to the public fields of the European Commission's official database for ERASMUS+ KA2 projects: title, topics/thematic areas, keywords and abstract. These fields were exported, cleaned and systematized for analysis.

The analysis is predominantly quantitative (count of keyword occurrences per year, sub-line and volume of funding), complemented by a thematic (qualitative) interpretation of the alignment of these keywords with the SDGs and targets. This qualitative component is descriptive and aims to contextualize the identified trends.

The central objective is to assess how ERASMUS+ Key Action 2 (KA2) projects, funded between 2014 and 2020, align with the Sustainable Development Goals (SDGs) defined in the United Nations 2030 Agenda.

The methodology centers on the analysis of metadata from the approved project proposals, focusing on the intentions expressed by proponents in specific fields: project titles, thematic areas, keywords, and descriptive abstracts. This documentary analysis strategy, grounded in the official records from the application phase, enables a critical assessment of the strategic orientation of the projects at the moment of submission.

It was a deliberate choice not to include data on project implementation or outcomes, as such information is often presented in non-standardized formats, varies greatly across projects, and is frequently unavailable systematically or comparably. As such, the analysis does not aim to measure project effectiveness or results but rather focuses on the initial declared objectives and thematic framing, which are more dependable and consistent for large-scale comparison.

3.2. Data Source and Analysis Universe

The empirical foundation of this study is based on data extracted from the official public platform of the European Commission for the ERASMUS+ program (https://erasmus-plus.ec.europa.eu/projects (accessed on 21 September 2025)), which provides summary-level information on all projects funded during each annual cycle.

The analysis universe includes all projects classified under Key Action 2 (KA2), funded between 1 January 2014 and 31 December 2020, resulting in a total of 24,838 projects. For each of these projects, the following metadata variables were collected and systematized:

- Project title;
- Thematic topics associated;
- Keywords provided;
- Descriptive summary of the proposal;
- Total funding awarded;
- Year of approval;
- Corresponding sub-action line.

This information constitutes the central analytical corpus of the study and forms the basis for the subsequent content analysis focused on identifying links between ERASMUS+ KA2 projects and the SDGs.

3.3. Thematic Correspondence Between Keywords and SDGs

The identification of the presence of Sustainable Development Goals (SDGs) in the proposals analyzed was conducted through the detection of keywords thematically linked to the objectives defined by the United Nations. The correspondence between selected terms and the SDGs was based on UNESCO recommendations (2017) [18] and the specific targets of each goal, as outlined in the official document Transforming Our World: The 2030 Agenda for Sustainable Development [17].

The search was conducted within the fields of project titles, topics, and summaries, using the following keywords: Climate Change, Gender Equality, Health, Education, Energy, Justice, Water, Sanitation, Poverty, Hunger, Ocean, Marine, Inequalities, Sustainability, and Innovation. These keywords were selected due to their direct or indirect association with one or more SDGs (see Table 2).

Table 2. Thematic mapping between keywords and SDGs.

Keyword	Associated SDG(s)	Note
Climate Change	ODS 13	Climate action
Gender Equality	ODS 5	Gender equality
Health	ODS 3	Health and well-being
Education	ODS 4	Quality education (transversal)
Energy	ODS 7	Clean and affordable energy
Justice	ODS 16	Peace, justice and effective institutions
Water/Sanitation	ODS 6	Drinking water and sanitation
Ocean/Marine	ODS 14	Life in the water
Poverty	ODS 1	Life in the water
Hunger	ODS 2	Zero hungry
Inequalities	ODS 10	Reducing inequalities
Sustainability	ODS 11/12/15	Cross-cutting theme (cities, consumption/production, life on land)

The occurrences of these keywords were tracked using an automated search process, supported by Microsoft Excel, across the specified text fields for all projects. Whenever a keyword appeared in any part of the project metadata, the project was considered to make an explicit reference to the associated SDG(s).

3.4. Data Analysis Strategy

The data collected were analyzed across three main dimensions. The first dimension involved measuring the absolute and relative frequency of the presence of keywords per calendar year. This enabled the identification of evolving trends in the thematic alignment of funded projects with the SDGs.

The second dimension assessed the aggregate financial volume of projects referencing each of the SDGs, allowing for an evaluation of the intensity of investment in specific areas of sustainability.

The third dimension examined the intersection between SDG-related themes and the various sub-action types funded (e.g., Strategic Partnerships, Capacity Building). This helped to identify which project formats most frequently incorporated sustainable development goals.

To ensure consistency and comparability across the dataset, multiple instances of the same keyword within a single project were counted only once. Furthermore, keyword occurrences were normalized relative to the total number of projects per year, thereby main-

taining statistical proportionality throughout the period under analysis. Figure 1 presents a schematic summary of the methodology adopted, from data extraction to thematic and quantitative analysis of the projects.

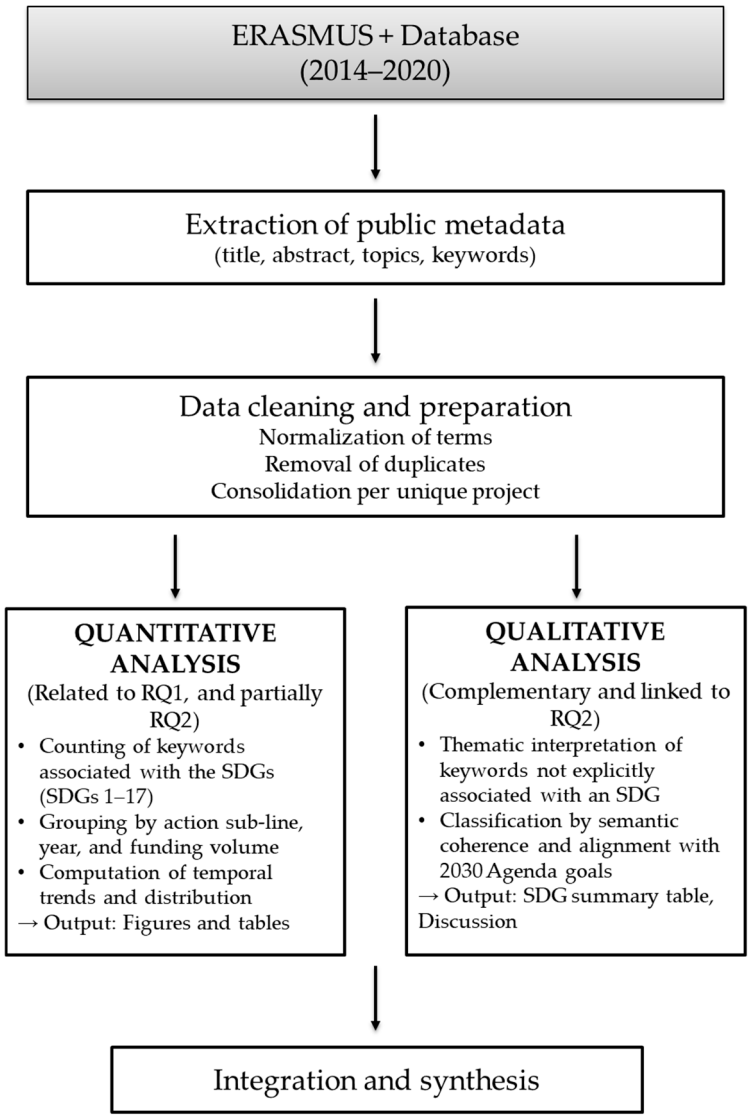


Figure 1. Methodological flow: extraction and preparation of metadata (title, topics, keywords, abstract); quantitative analysis (counts by year, sub-line and funding) and qualitative analysis (thematic interpretation of the SDG keywords/mapping); synthesis by SDGs (tables and time series) and integration with sub-lines of action; discussion and conclusions by RQ.

3.5. Research Limitations

The methodological approach adopted in this study presents several limitations that should be acknowledged, namely:

i. Inclusion/exclusion criteria and field coverage: Project descriptions are heterogeneous and sometimes incomplete; we have mitigated this with single counting per project and cross-checking between title, topics and abstract.
ii. Use of keywords as a thematic proxy: Certain words may appear in contexts not directly related to the SDGs; to reduce false positives, we restricted the analysis to anchor terms mapped to SDGs and normalized them by year/total projects.

iii. Absence of impact metrics: We evaluate intentions at the time of application, not implementation results; longitudinal studies and qualitative analyses of outputs are recommended for future work.

iv. Disaggregation by country. The European Commission's public database for KA2 projects does not provide systematic and comparable country/consortium information for all registries; for this reason, we do not include a geographical analysis. The integration of this dimension will depend on access to complete data in future work.

Furthermore, the study focuses exclusively on KA2 projects listed in the official European Commission database and does not include data from Key Actions 1 or 3, nor from other European or national funding sources.

Despite these limitations, the adopted methodology provides a solid foundation for longitudinal analysis of the ERASMUS+ program's alignment with sustainable development strategies. It also serves as a valuable starting point for future research, including qualitative studies aimed at assessing the real-world impact of these educational initiatives. This methodological framework aligns with recent bibliometric approaches for SDG mapping in education [24].

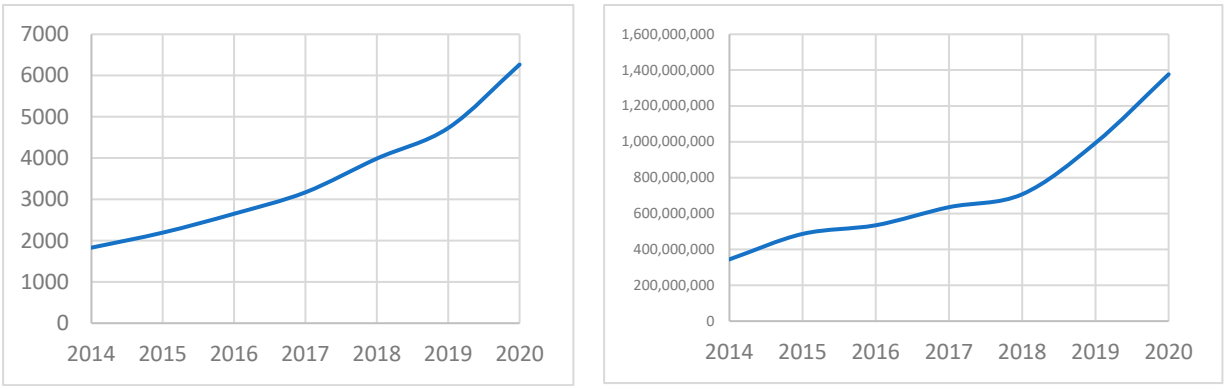
4. Results

4.1. Overall Evolution of Projects and Funding (2014–2020)

The initial step of the analysis involved identifying the total number of ERASMUS+ KA2 projects and the total funding allocated between 2014 and 2020 (see Table 3). An examination of the temporal trends for both indicators, project count and funding, reveals a substantial upward trajectory over this period (Figure 2). Specifically, the number of projects in 2020 was approximately 3.4 times greater than in 2014, while total funding increased by a factor of about 4.0.

Table 3. Total number of ERASMUS+ KA2 projects and their funding per year (2014–2020).

Year	No. of Projects	Funding (€)
2014	1830	344,888,125.41
2015	2195	486,671,959.46
2016	2651	535,428,108.82
2017	3173	635,880,234.28
2018	3990	708,046,921.77
2019	4731	993,637,103.13
2020	6268	1,377,074,383.09



(**a**) (**b**)

Figure 2. Graphs, over time (between the years 2014 and 2020): (**a**) the total number of projects funded; (**b**) the total funding of accepted projects (in euros).

4.2. Distribution by Sub-Lines of Action

To deepen our analysis, we examined both the number of projects and the corresponding funding across each sub-line of action (as presented in Table 4).

It is important to note that the final sub-line of action has virtually no representation, with only a single project funded in the amount of € 270,316.40. As such, this sub-line will be excluded from our analysis.

To enable a more meaningful interpretation of the data, the results of this search were normalized by calculating each value in proportion to the total number of projects and the total funding. This approach provides a clearer and more realistic understanding of the distribution patterns. The results of these calculations are presented graphically (see Figure 3).

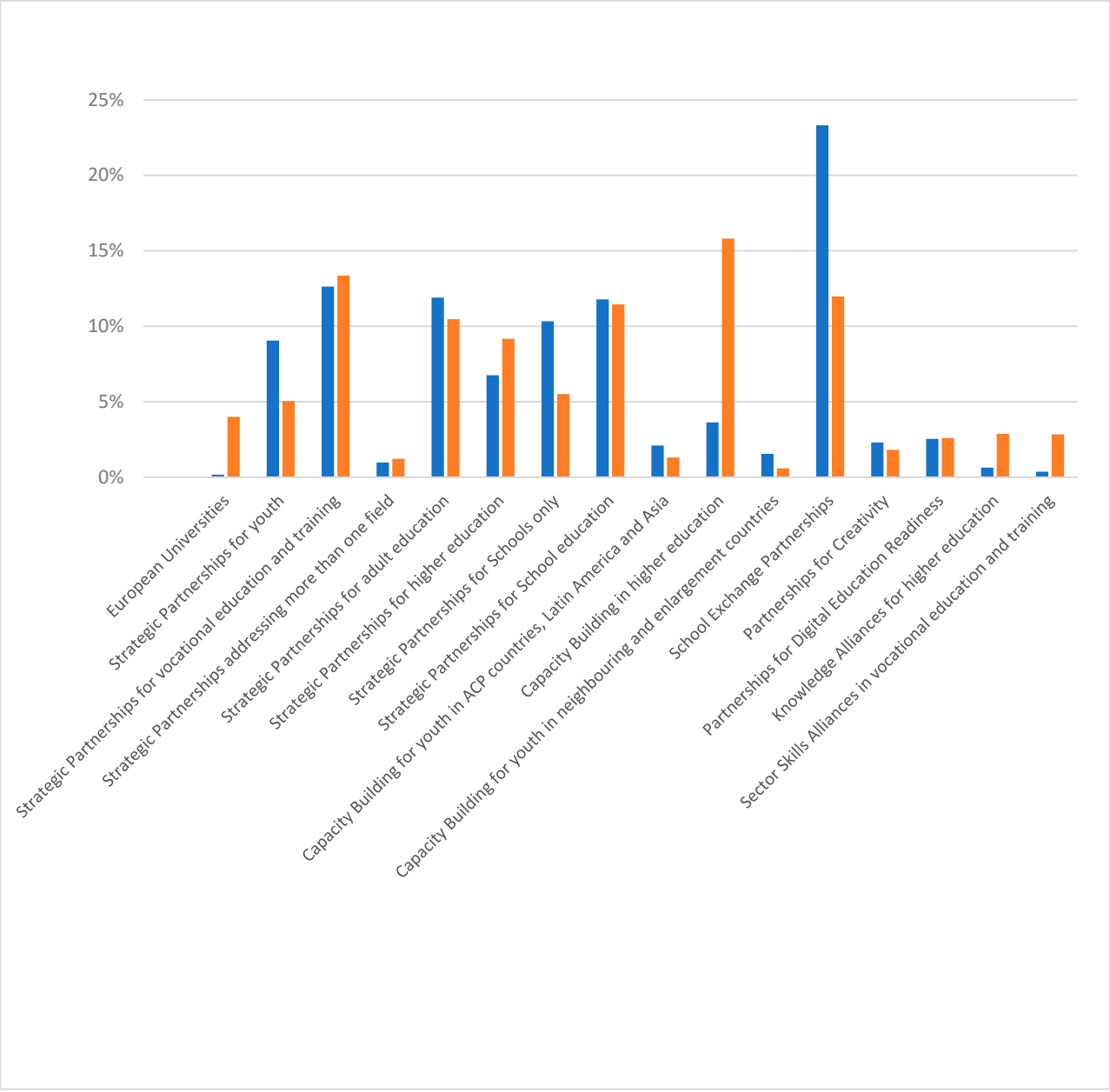


Figure 3. Bar graph showing the percentage of projects (in blue) and the percentage of funding (in red) for each action line in the period between 2014 and 2020. The percentages are calculated based on the total and funding amounts in that period.

The results indicate that certain sub-lines, despite accounting for a relatively small number of funded projects, received disproportionately high levels of funding. This is particularly evident in the cases of European Universities, Knowledge Alliances for Higher Education, and Sector Skills Alliances in Vocational Education and Training. The most striking example is the European Universities sub-line. Additionally, the sub-line Capacity Building in Higher Education represents only approximately 3.6% of the total number of projects, yet it accounts for about 15.8% of the overall funding, making it the sub-line with the highest share of total funding.

It is also important to consider that several sub-lines were not open for applications during every year of the period under review. As a result, the funding allocated in the years when they were active is significantly higher compared to other sub-lines. To support this interpretation, we developed a graph showing the funding distribution for all sub-lines throughout the analysis period (see Figure 4).

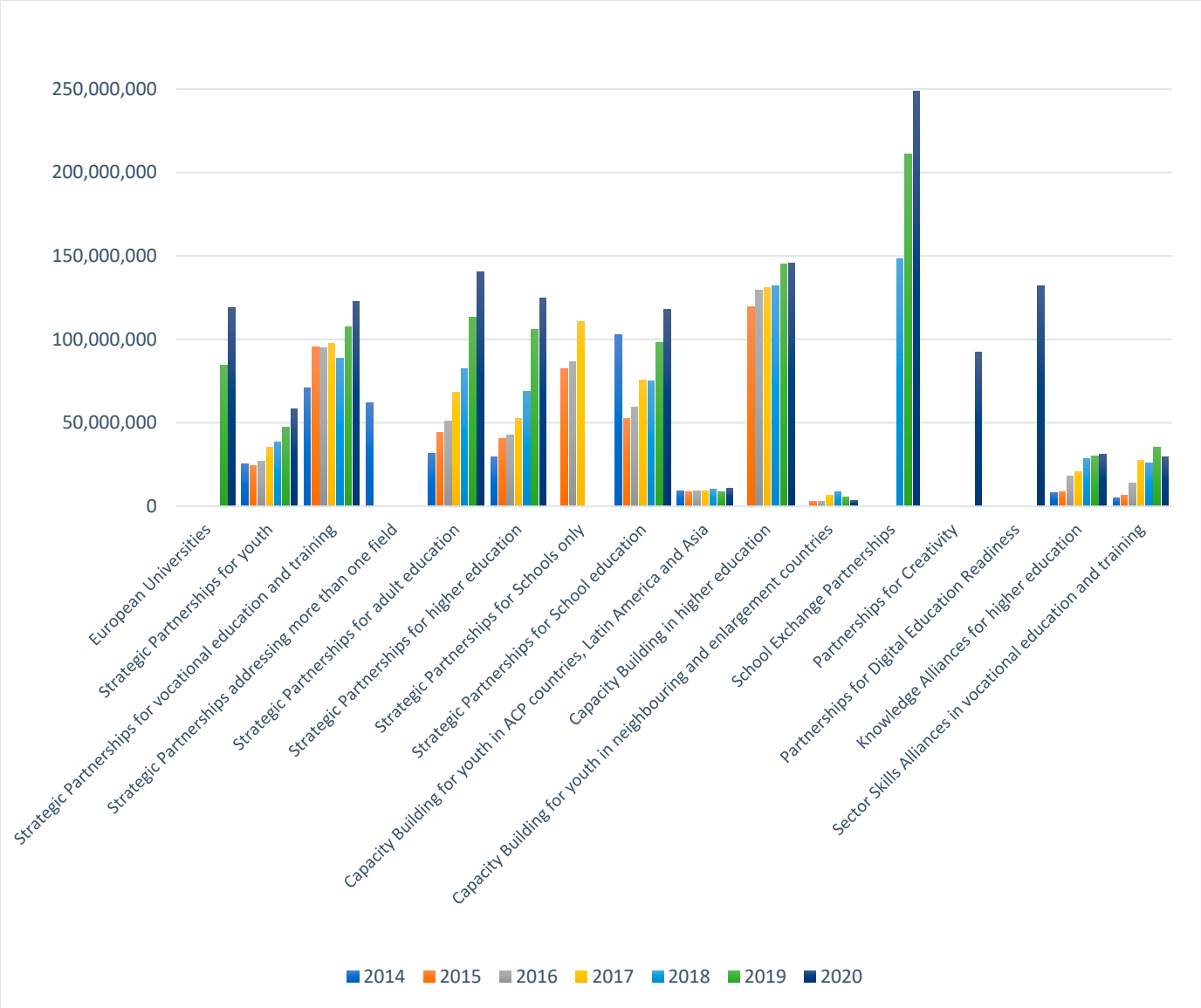


Figure 4. Bar chart of the funding of each action line between 2014 and 2020.

As shown in Figure 4, the graph confirms the trends discussed above. Specifically, the European Universities sub-line was only open for applications in 2019 and 2020, yet it received remarkably high levels of funding during those two years. Similarly, the

Partnerships for Creativity and Partnerships for Digital Education Readiness sub-lines were introduced in 2020, both securing significant funding in that year. It is also noteworthy that the School Exchange Partnerships sub-line was only available in 2018, 2019, and 2020, during which it became one of the most heavily funded sub-lines. Finally, the Strategic Partnerships addressing more than one field sub-line was active only in 2014, yet it received the second-highest level of funding in that year.

Table 4. Number of projects and their funding for each sub-action line.

Sub-Line of Action	Number	Funding (€)
European Universities	41	203,222,868.90
Strategic Partnerships for Youth	2247	255,907,472.73
Strategic Partnerships for vocational education and training	3136	678,456,628.23
Strategic Partnerships addressing more than one field	242	62,108,131.33
Strategic Partnerships for Adult Education	2954	532,005,629.87
Strategic Partnerships for Higher Education	1677	465,723,521.39
Strategic Partnerships for Schools only	2566	279,907,224.80
Strategic Partnerships for School Education	2924	581,745,839.62
Capacity Building for youth in ACP countries. Latin America and Asia	522	66,310,029.30
Capacity Building in Higher Education	902	803,239,641.86
Capacity Building for youth in neighboring and enlargement countries	385	30,000,219.81
School Exchange Partnerships	5789	608,302,980.58
Partnerships for Creativity	572	92,294,105.96
Partnerships for Digital Education Readiness	632	132,106,230.42
Knowledge Alliances for higher education	158	145,771,596.76
Sector Skills Alliances in vocational education and training	90	144,254,398.00
Network of National Erasmus+ Offices	1	270,316.40

4.3. Thematic Focus by Keywords (2014–2020)

The next observation focused on determining the total number of projects in which occurrences of the selected keywords were identified across the three available data fields of the ERASMUS+ KA2 projects—title, topics, and summary—during the period under review (2014–2020). The results of this analysis are presented in Table 5. It is important to note that keywords such as Education, Energy, Water, Innovation, and Sustainability are crosscutting in nature, making it difficult to associate them directly with a specific SDG.

Table 5. Total number of projects for each keyword.

Keyword	Projects (Number)
Climate Change	2548
Gender Equality	1075
Health	4570
Education	21,778
Energy	1564
Justice	517
Water	1049
Sanitation	21
Ocean	163
Marine	141
Poverty	721
Hunger	53
Inequalities	305
Innovation	5541
Sustainability	3795

A preliminary reading of Table 5 reveals that the number of projects associated with the keywords Sanitation (0.08% of total projects), Ocean (0.7%), Marine (0.6%), and Hunger (0.002%) suggests a limited representation of SDGs 2, 6, and 14 in ERASMUS+ KA2 projects during the analyzed period. Funding percentages associated with these keywords were also calculated and showed similarly low levels of representation.

After the presentation of the indicators by keyword, we anticipate a joint comparison of the five most incident themes (Education, Health, Climate Change, Sustainability, Innovation) and a summary table by SDGs that summarizes presence and trend throughout 2014–2020.

4.4. Temporal Analysis by Keyword

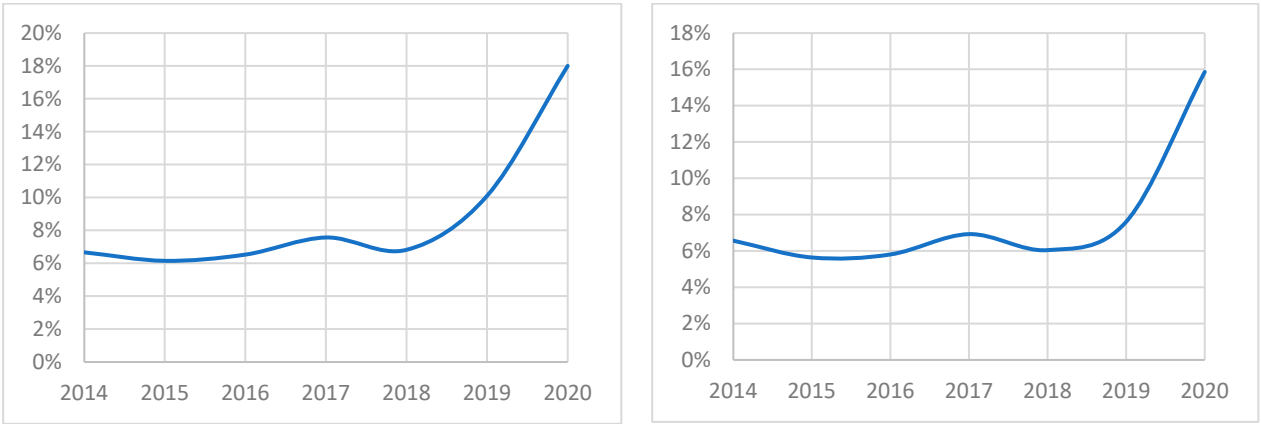
Additionally, in order to analyze the temporal evolution of these indicators (associated with the selected keywords), we determined the number of projects in which each keyword appeared for every year within the period under review, as well as the corresponding funding allocated to those projects.

4.4.1. Climate Change

Table 6 presents the annual number of projects and the corresponding funding that includes the keyword "Climate Change". The table also displays the respective percentages, calculated based on the total number of projects and funding for each year. These percentage values offer a more accurate representation of the evolution of such projects over time. As illustrated in Figure 5, the growth in percentage terms is notably significant.

Table 6. Numbers and percentages (relative to the total number of projects funded in that year) of projects associated with the keyword "Climate Change", in each of the years under review.

Year	Number	Funding (€)	Number (%)	Funding (%)
2014	122	22,639,676.83	6.7%	6.6%
2015	135	27,452,314.85	6.2%	5.6%
2016	173	31,086,025.57	6.5%	5.8%
2017	240	44,036,304.71	7.6%	6.9%
2018	272	42,807,427.97	6.8%	6.0%
2019	478	75,583,677.04	10.1%	7.6%
2020	1128	218,299,026.81	18.0%	15.9%



(**a**) (**b**)

Figure 5. Graph of the evolution of the percentages of the number of projects (**a**) and their funding (**b**) over the period under review, for the keyword "Climate Change".

4.4.2. Gender Equality

Table 7 replicates the previous analysis, this time focusing on the keyword "Gender Equality". The temporal evolution of the corresponding percentages is illustrated in Figure 6. Although the percentages are not particularly high, the progression over time is significant, especially in terms of the number of projects.

Table 7. Numbers and percentages (relative to the total number of projects funded in that year) of projects associated with the keyword "Gender Equality" in each of the years under review.

Year	Number	Funding (€)	Number (%)	Funding (%)
2014	40	8,431,284.34	2.2%	2.4%
2015	71	11,738,254.63	3.2%	2.4%
2016	83	12,432,778.93	3.1%	2.3%
2017	133	19,656,519.60	4.2%	3.1%
2018	179	27,575,311.55	4.5%	3.9%
2019	258	39,638,420.35	5.5%	4.0%
2020	311	56,152,861.68	5.0%	4.1%

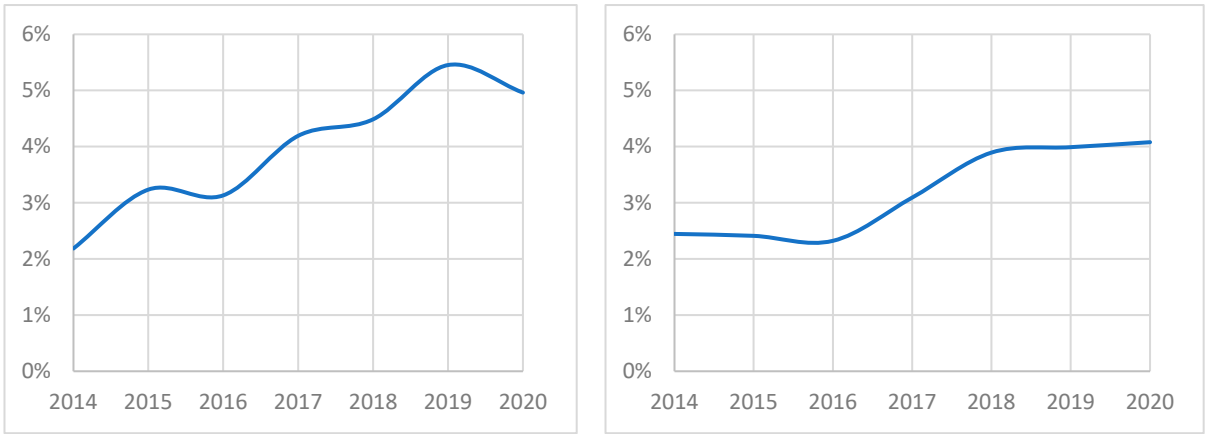


Figure 6. Graph of the evolution of the percentages of the number of projects (**a**) and their funding (**b**) over the period under review, for the keyword "Gender Equality".

4.4.3. Health

The third analysis focused on the keyword "Health". The results are presented in Table 8, with the temporal evolution illustrated in Figure 7. These findings show that the percentage of projects and funding associated with this keyword is among the highest observed. However, unlike the previous two keywords, the growth trend is not as steep, likely because the initial values were already significantly high.

Table 8. Numbers and percentages (relative to the total number of projects funded in that year) of projects associated with the keyword "Health", in each of the years under review.

Year	Number	Funding (€)	Number (%)	Funding (%)
2014	288	51,947,951.94	15.7%	15.1%
2015	319	68,464,878.68	14.5%	14.1%
2016	416	75,474,858.10	15.7%	14.1%
2017	499	86,882,032.21	15.7%	13.7%
2018	699	1189,98,447.72	17.5%	16.8%
2019	888	179,341,119.44	18.8%	18.0%
2020	1461	324,352,371.41	23.3%	23.6%

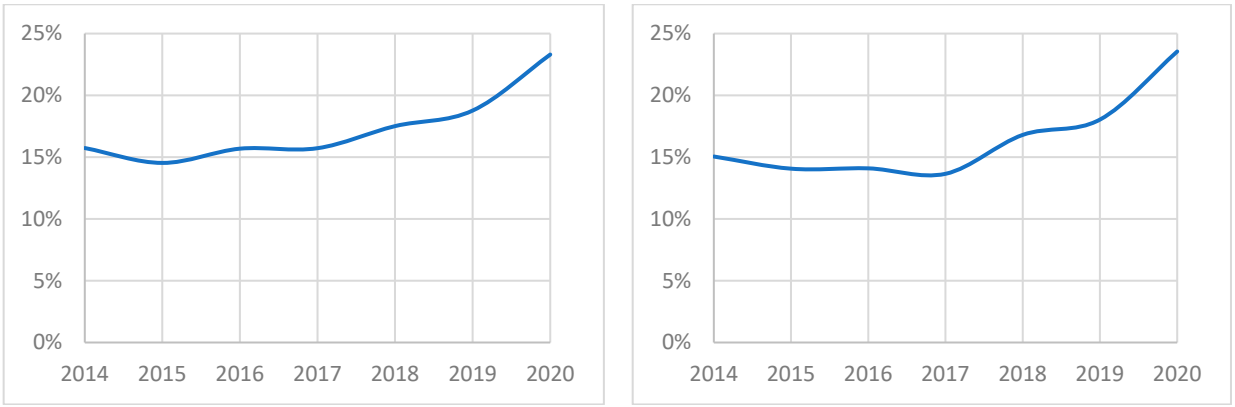


Figure 7. Graph of the evolution of the percentages of the number of projects (**a**) and their funding (**b**) over the period under review, for the keyword "Health".

4.4.4. Justice

The results presented in Table 9 and illustrated in Figure 8 show the total and percentage values of projects and funding in which the keyword "Justice" appears. Although these percentages are considerably lower than those associated with previous keywords, a modest upward trend over time can still be observed.

Table 9. Numbers and percentages (relative to the total number of projects funded in that year) of projects with the keyword "Justice", in each of the years under review.

Year	Number	Funding (€)	Number (%)	Funding (%)
2014	29	4,518,035.66	1.6%	1.3%
2015	44	7,003,442.72	2.0%	1.4%
2016	52	6,747,317.20	2.0%	1.3%
2017	74	11,294,854.95	2.3%	1.8%
2018	65	10,606,144.95	1.6%	1.5%
2019	98	17,145,244.64	2.1%	1.7%
2020	155	28,013,286.52	2.5%	2.0%

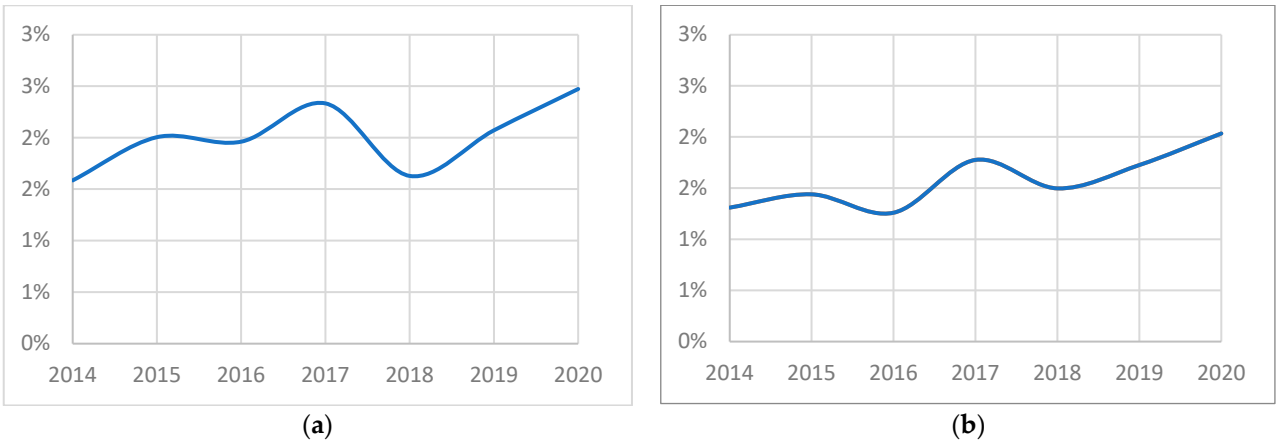


Figure 8. Graph of the evolution of the percentages of the number of projects (**a**) and their funding (**b**) over the period under review, for the keyword "Justice".

4.4.5. Poverty

The next keyword analyzed over the period under review was "Poverty". The results of this research are presented in Table 10, where, as in previous cases, we calculated the

yearly percentages relative to the total number of projects and funding. The temporal evolution of the projects referencing this keyword is graphically represented in Figure 9. The data reveal a modest representation of this theme, with a slight downward trend observed over the period analyzed.

Table 10. Numbers and percentages (relative to the total number of projects funded in that year) of projects associated with the keyword "Poverty" in each of the years under review.

Year	Number	Funding (€)	Number (%)	Funding (%)
2014	63	10,835,420.12	3.4%	3.1%
2015	81	17,847,333.76	3.7%	3.7%
2016	65	13,925,943.64	2.5%	2.6%
2017	101	16,984,799.02	3.2%	2.7%
2018	83	15,304,410.51	2.1%	2.2%
2019	144	28,754,326.37	3.0%	2.9%
2020	184	32,020,570.30	2.9%	2.3%

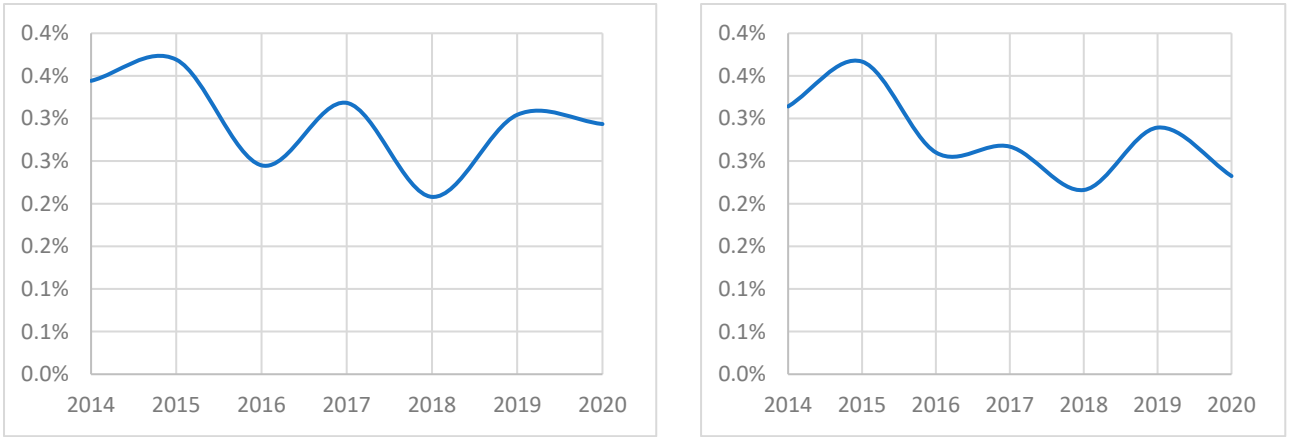


Figure 9. Graph of the evolution of the percentages of the number of projects (**a**) and their funding; (**b**) over the period under review, for the keyword "Poverty".

The results for this keyword indicate that there is no significant investment in projects associated with it. Moreover, unlike the trends observed in the previously analyzed keywords, the temporal evolution shows a declining pattern over the period under review.

4.4.6. Inequalities

A similar analysis was conducted for the projects in which the keyword "Inequalities" appears. The results regarding the number of projects and corresponding funding are presented in Table 11. The temporal evolution of the percentage values for both indicators, relative to the annual totals, is illustrated in Figure 10.

Although the number of projects and the associated funding related to the keyword "Inequalities" remain relatively low, they are significantly higher than those observed for the keywords "Sanitation", "Marine", "Ocean", or "Hunger". For this reason, we considered it relevant to include this keyword in our analysis. As shown in Table 11, while the values in 2014 were particularly low, there was notable growth in subsequent years, especially in 2019 and 2020.

Table 11. Numbers and percentages (relative to the total number of projects funded in that year) of projects associated with the keyword "Inequalities", in each of the years under review.

Year	Number	Funding (€)	Number (%)	Funding (%)
2014	12	1,652,808.83	0.7%	0.5%
2015	25	5,649,401.99	1.1%	1.2%
2016	23	4,581,144.30	0.9%	0.9%
2017	30	4,701,317.11	0.9%	0.7%
2018	32	4,748,997.89	0.8%	0.7%
2019	65	10,774,014.22	1.4%	1.1%
2020	118	23,054,397.80	1.9%	1.7%

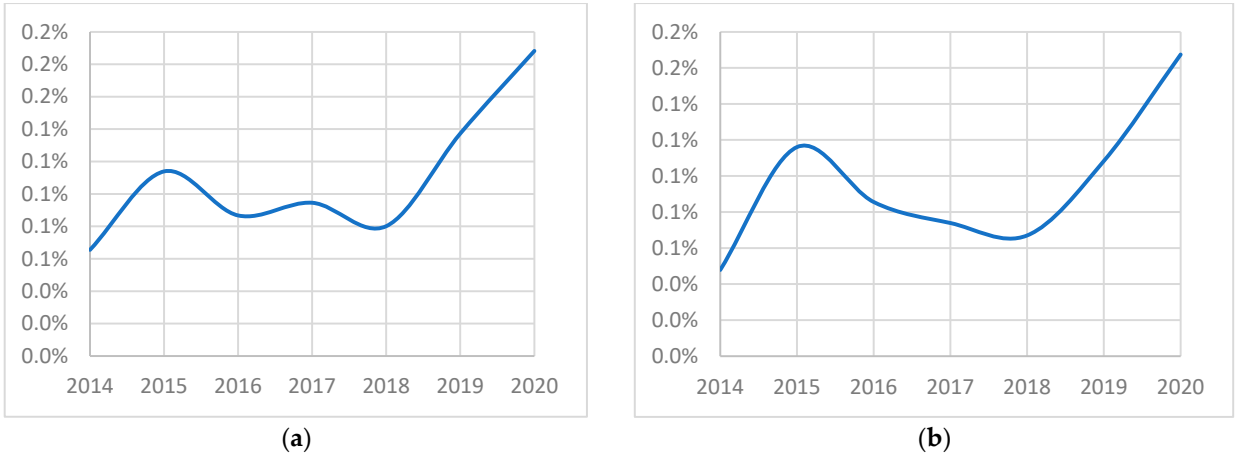


Figure 10. Graph of the evolution of the percentages of the number of projects (**a**) and their funding; (**b**) over the period under review, for the keyword "Inequalities".

4.4.7. Comparative Analysis of Key Keywords

Figures 11 and 12 present the temporal evolution of the projects associated with the first five keywords discussed above. The keyword "Inequalities" was excluded from these visualizations, as their values are not directly comparable with the others due to their significantly lower magnitude.

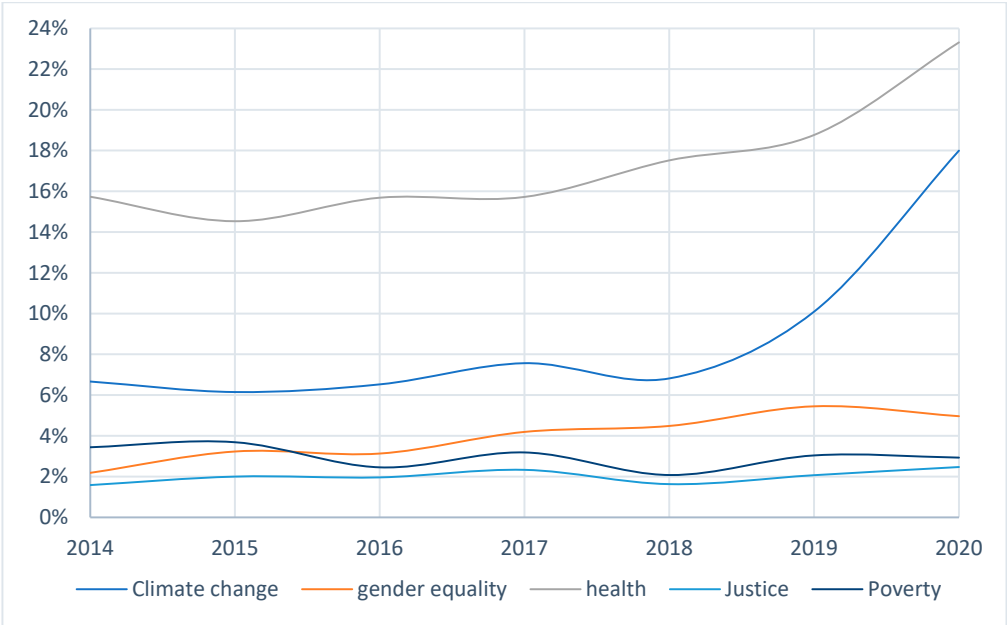


Figure 11. Number of projects (%) for each keyword over time.

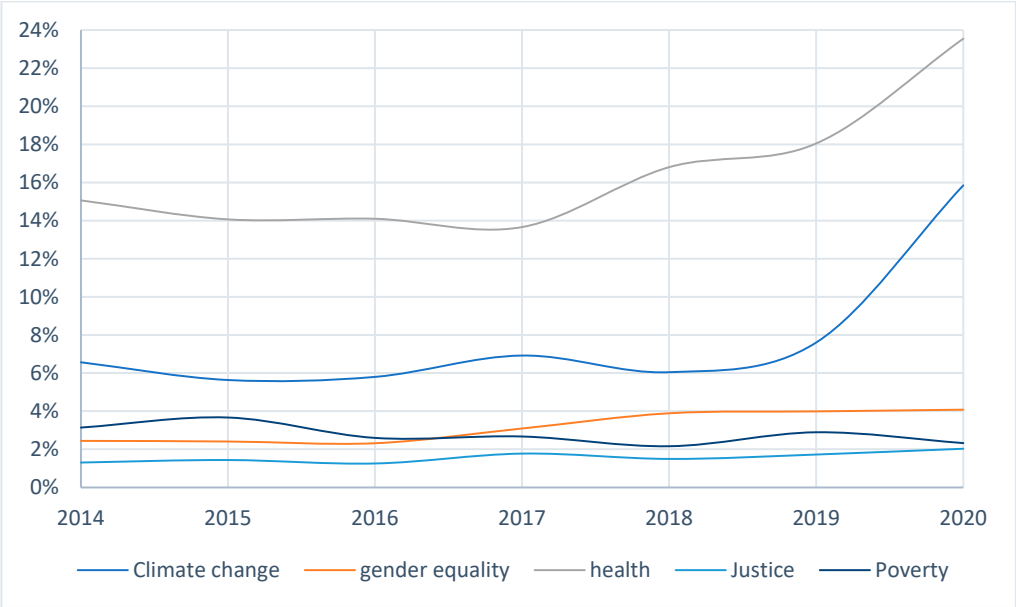


Figure 12. Project funding (%) for each keyword over time.

4.4.8. Water

We also analyzed the number and percentage of projects associated with the cross-cutting keywords previously mentioned. Table 12 presents the results for the keyword "Water", while its temporal evolution is illustrated in Figure 13. The number of projects and the corresponding funding are both significant. Although the upward trend is more pronounced in the number of projects than in the amount of funding, both indicators show consistent growth over the analyzed period.

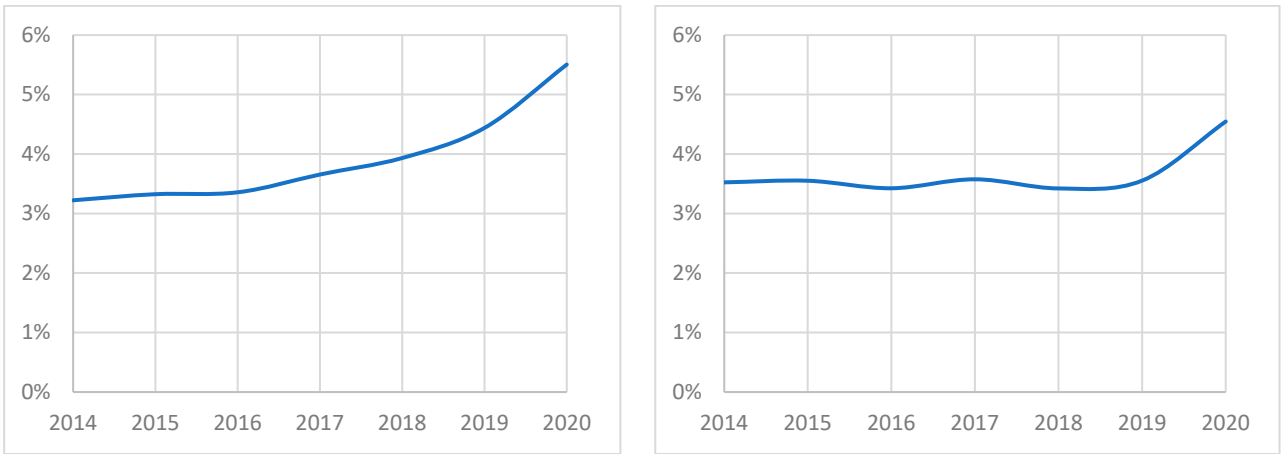


Figure 13. Graph of the evolution of the percentages of the number of projects (**a**) and their funding (**b**) over the period under review, for the keyword "Water".

Table 12. Number and percentage (relative to the total number of projects funded in that year) of projects associated with the keyword "Water" in each of the years under review.

Year	Number	Funding (€)	Number (%)	Funding (%)
2014	59	12,158,783.19	3.2%	3.5%
2015	73	17,281,736.37	3.3%	3.6%
2016	89	18,342,845.81	3.4%	3.4%
2017	116	22,743,492.56	3.7%	3.6%

Table 12. *Cont.*

Year	Number	Funding (€)	Number (%)	Funding (%)
2018	157	24,231,065.27	3.9%	3.4%
2019	210	35,310,062.76	4.4%	3.6%
2020	345	62,625,049.81	5.5%	4.5%

4.4.9. Energy

Another cross-cutting keyword analyzed is "Energy", for which the number of associated projects and their funding amounts are presented in Table 13. The temporal evolution of the percentage values for both indicators is illustrated in Figure 14, providing a clearer understanding of the trend throughout the 2014–2020 period.

Table 13. Number and percentage (relative to the total number of projects funded in that year) of projects associated with the keyword "Energy" in each of the years under review.

Year	Number	Funding (€)	Number (%)	Funding (%)
2014	118	23,719,169.83	6.4%	6.9%
2015	133	33,256,228.41	6.1%	6.8%
2016	164	35,952,031.29	6.2%	6.7%
2017	172	40,809,318.37	5.4%	6.4%
2018	184	28,248,487.54	4.6%	4.0%
2019	304	81,626,574.53	6.4%	8.2%
2020	489	96,856,160.16	7.8%	7.0%

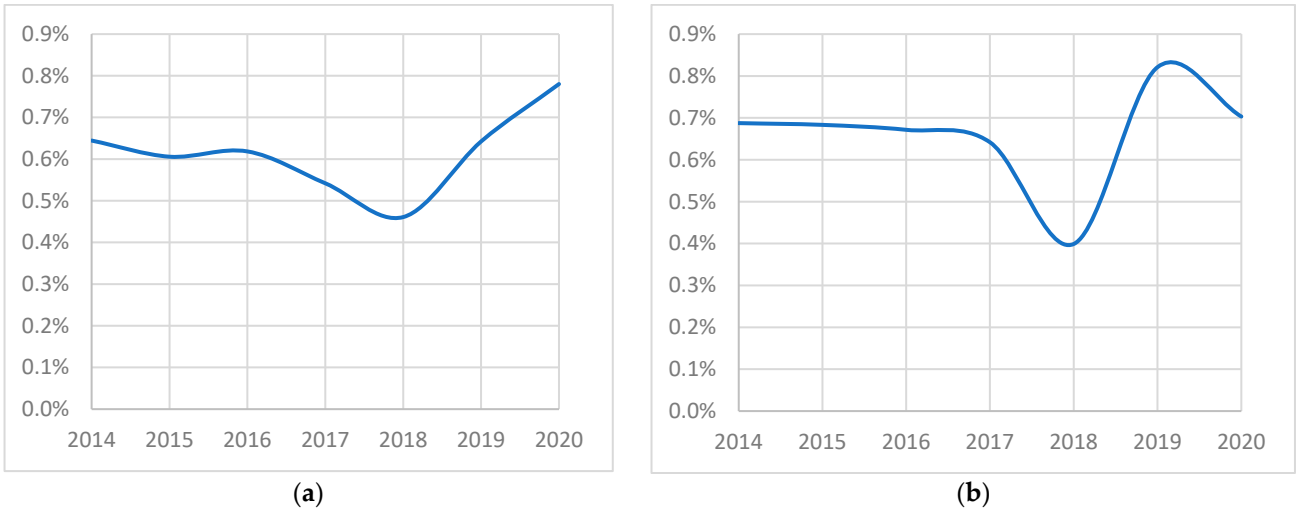


Figure 14. Graph of the evolution of the percentages of the number of projects (**a**) and their funding (**b**) over the period under review, for the keyword "Energy".

The results obtained for the keyword "Energy" indicate that both the number of projects and the associated funding are significant. However, in terms of temporal evolution, no consistent upward trend is observed across the 2014–2020 period. Notably, there is a marked decrease in both indicators in 2018, followed by a recovery in the subsequent two years.

4.4.10. Sustainability

Also, within this category of cross-cutting keywords, we analyzed the results for "Sustainability", as presented in Table 14, which includes both the number of projects and the corresponding funding. The temporal evolution of these indicators is illustrated in

Figure 15. An examination of Table 14 reveals that both the number of projects and their funding associated with this keyword are notably significant.

Table 14. Number and percentage (relative to the total number of projects funded in that year) of projects associated with the keyword "Sustainability" in each of the years under review.

Year	Number	Funding (€)	Number (%)	Funding (%)
2014	264	58,832,940.17	14.4%	17.1%
2015	330	86,285,187.80	15.0%	17.7%
2016	385	92,900,977.98	14.5%	17.4%
2017	464	109,280,626.19	14.6%	17.2%
2018	505	104,082,563.01	12.7%	14.7%
2019	702	176,198,446.90	14.8%	17.7%
2020	1145	270,793,329.46	18.3%	19.7%

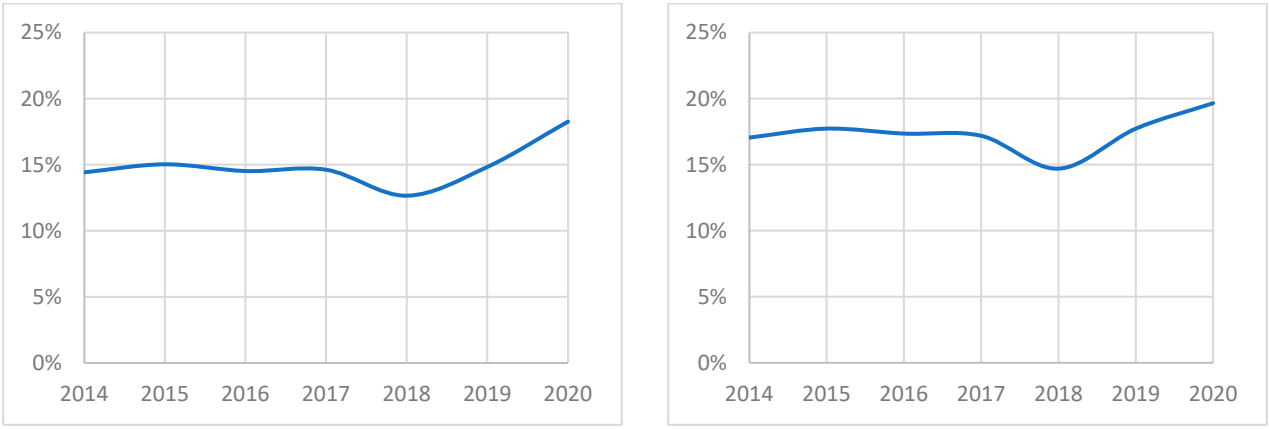


Figure 15. Graph of the evolution of the percentages of the number of projects (**a**) and their funding (**b**) over the period under review, for the keyword "Sustainability".

Regarding temporal evolution, there is modest growth between 2014 and 2015. Interestingly, and in line with the trend observed for the keyword "Energy", a decline is evident in 2018, although this decrease is less pronounced in the case of "Sustainability".

4.4.11. Innovation

The keyword "Innovation" is also considered a transversal term, and the corresponding data regarding the number of associated projects and their funding are presented in Table 15. The temporal evolution of the percentage values for these indicators is illustrated in Figure 16. As shown in Table 15, both the number of projects and the funding linked to this keyword are consistently significant throughout the period analyzed. Notably, in 2020, approximately 25% of all ERASMUS+ KA2 projects referenced "Innovation", accounting for 30% of the total funding allocated that year. This trend highlights the growing relevance of this theme within the program. The data presented in Figure 16 indicates a gradual and steady increase in both indicators over time. Specifically, in 2014, the proportion of projects associated with "Innovation" was already 21.7%, with the corresponding funding representing 23.4% of that year's total figures, which further emphasizes its prominence from the outset of the analyzed period.

Table 15. Number and percentage (relative to the total number of projects funded in that year) of projects associated with the keyword "Innovation" in each of the years under review.

Year	Number	Funding (€)	Number (%)	Funding (%)
2014	398	80,706,641.30	21.7%	23.40%
2015	480	109,743,947.51	21.9%	22.55%
2016	554	122,447,199.50	20.9%	22.87%
2017	650	152,992,937.71	20.5%	24.06%
2018	768	165,561,461.43	19.2%	23.38%
2019	1112	276,970,042.81	23.5%	27.87%
2020	1579	424,232,937.64	25.2%	30.81%

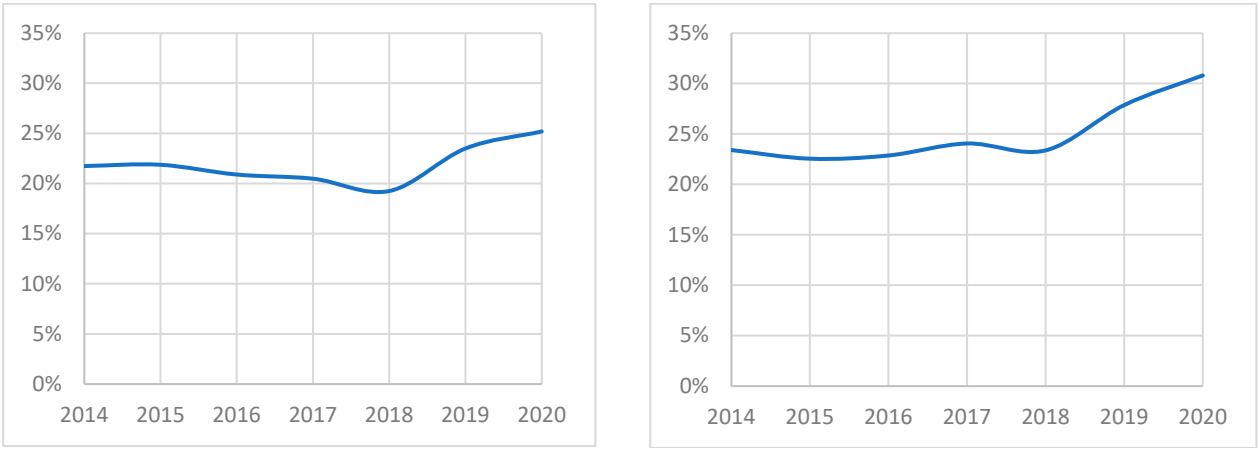


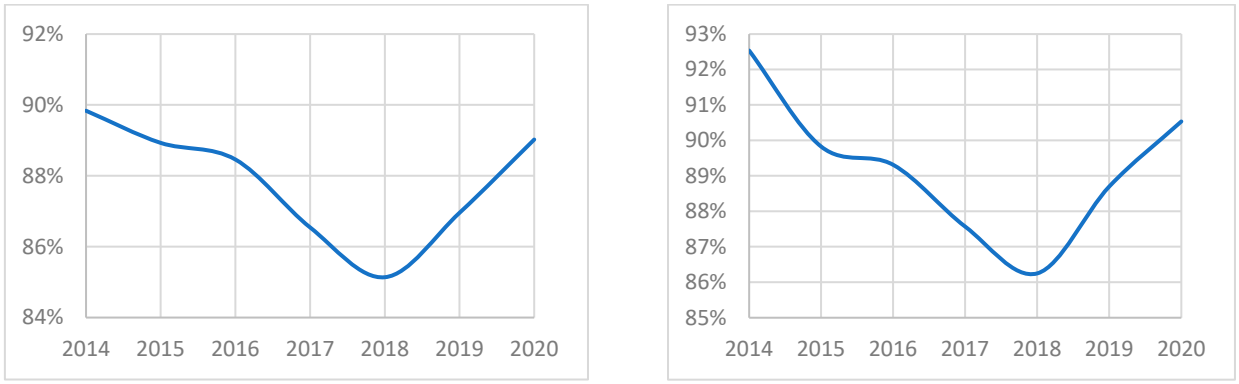
Figure 16. Graph of the evolution of the percentages of the number of projects (**a**) and their funding (**b**) over the period under review, for the keyword "Innovation".

4.4.12. Education

The final keyword analyzed was "Education", which is undoubtedly the most transversal among those studied, given that all ERASMUS+ KA2 projects are, by their very nature, directed toward educational objectives. The results of our search regarding the number of projects and the corresponding funding associated with this keyword are presented in Table 16. The temporal evolution of the percentage values for both indicators is illustrated in Figure 17. As previously mentioned, the values for both the number of projects and the associated funding consistently approach 90% throughout the analyzed period (2014–2020). The trend over time reveals a slight decline in 2017, which becomes more pronounced in 2018—an effect similarly observed for other transversal keywords such as "Energy" and "Sustainability". However, this decline is reversed in 2019 and 2020, indicating a recovery in the prevalence and funding of projects explicitly referencing education.

Table 16. Number and percentage (relative to the total number of projects funded in that year) of projects associated with the keyword "Education" in each of the years under review.

Year	Number	Funding (€)	Number (%)	Funding (%)
2014	1644	319,129,457.82	89.8%	92.5%
2015	1952	437,153,256.16	88.9%	89.8%
2016	2345	478,191,047.86	88.5%	89.3%
2017	2746	556,835,954.33	86.5%	87.6%
2018	3397	610,705,495.28	85.1%	86.3%
2019	4114	881,382,268.26	87.0%	88.7%
2020	5580	1,246,720,394.37	89.0%	90.5%



(**a**) (**b**)

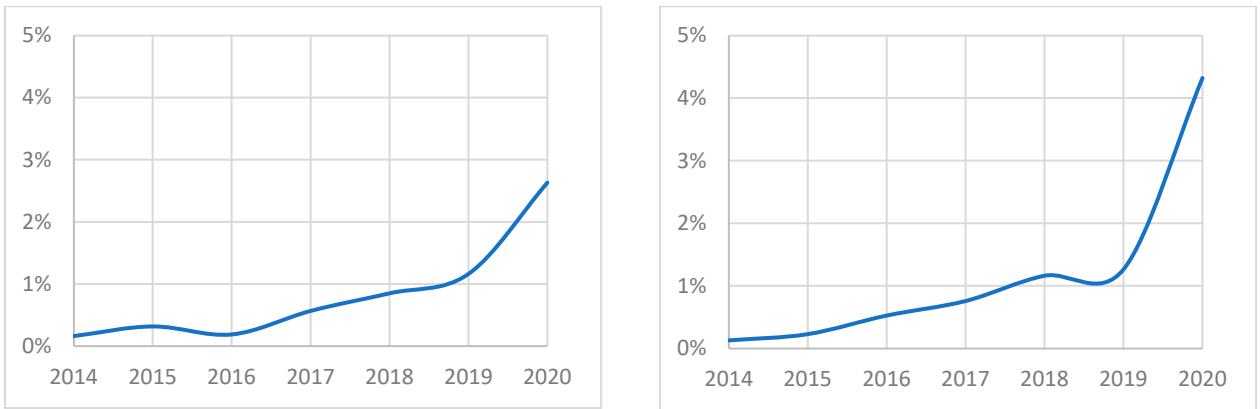
Figure 17. Graph of the evolution of the percentages of the number of projects (**a**) and their funding (**b**) over the period under review, for the keyword "Education".

4.5. Explicit Incidence of the Keyword "SDG"

This concludes the analysis of the ERASMUS+ KA2 projects in which the various keywords listed in Table 5 were identified. As previously mentioned, the keywords "Sanitation", "Marine", "Ocean", and "Hunger" were excluded from further analysis due to their negligible representation in the dataset, i.e., the number of projects containing these terms was not statistically significant.

To deepen our understanding of the extent to which ERASMUS+ KA2 projects have engaged with sustainable development priorities, a final search was conducted using the keyword "SDG". This keyword was considered a direct indicator of explicit support for and engagement with the United Nations Sustainable Development Goals (SDGs) within the framework of the projects analyzed.

The results of this final search, concerning both the number of projects and their associated funding, are presented in Table 17, with the temporal evolution of these indicators illustrated in Figure 18. Although the absolute values for both indicators are not particularly high, the trend over time is noteworthy. In particular, the funding associated with projects mentioning "SDG" increased by a factor of 8.2 between 2016 and 2020. It is important to note that the SDGs were officially adopted in 2015, which justifies the low levels observed between 2014 and 2016.



(**a**) (**b**)

Figure 18. Graph of the evolution of the percentages of the number of projects (**a**) and their funding (**b**) over the period under review, for the keyword "SDG".

Table 17. Number and percentage (relative to the total number of projects funded in that year) of projects associated with the keyword "SDG" in each of the years under review.

Year	Number	Funding (€)	Number (%)	Funding (%)
2014	3	441,439.80	0.2%	0.1%
2015	7	1,112,483.60	0.3%	0.2%
2016	5	2,820,072.95	0.2%	0.5%
2017	18	4,827,154.67	0.6%	0.8%
2018	34	8,228,445.43	0.9%	1.2%
2019	55	12,564,437.44	1.2%	1.3%
2020	165	59,506,396.27	2.6%	4.3%

5. Discussion

The results confirm the centrality of SDG 3, SDG 4 and SDG 13 in the funded agenda, in line with the recent European emphasis on health, quality of education and climate action [5]. This pattern is repeated in more recent analyses of the program, which point to the prevalence of SDGs linked to education, equality and climate [6]. The increasing incidence of "Climate Change" and "Sustainability" is consistent with policy guidelines such as the European Green Deal [25] and with academic production that associates cooperation programs with sustainability skills in higher education, as well as confirming that educational mobility and cooperation programs mainly reinforce SDGs 4, 5 and 13, while structural gaps remain in other areas [26].

In contrast, the underrepresentation of SDG 2, SDG 6 and SDG 14 suggests thematic asymmetry in the supported portfolio. This finding opens space for rebalancing in future ERASMUS+ calls, either by explicit incentives to refer to less covered SDGs, or by formulation guidelines (keywords/descriptors) that increase traceability and structured reporting of sustainability priorities [24,27,28].

The analysis of the results reveals that the irregular presence of certain SDGs (namely SDGs 8, 12, 15 and 17) is not only due to the absence of keywords but also reflects thematic prioritization patterns within the ERASMUS+ program. These asymmetries may be associated with the profile of the proponents, the orientation of the funding lines, or the institutional vocabulary used in the applications, which tends to emphasize more transversal terms such as "education", "innovation" or "sustainability", to the detriment of explicit references to specific objectives [5,24,26].

The results presented in the previous section demonstrate how projects funded by the ERASMUS+ KA2 program between 2014 and 2020 incorporated or omitted topics aligned with the Sustainable Development Goals (SDGs). The keyword analysis enables both qualitative and quantitative inference of the alignment of project content with the various domains of the UN 2030 Agenda, and consequently, the strategic orientation of the European Union in terms of sustainability and education.

As shown in Table 5, keywords such as "Hunger," "Sanitation," "Marine," and "Ocean" appear only residually or are completely absent from the financed projects. This clear underrepresentation suggests that SDGs 2 (Zero Hunger), 6 (Clean Water and Sanitation), and 14 (Life Below Water) remain marginal within this funding strand, a finding that echoes previous studies highlighting the difficulty of operationalizing these goals within higher education-focused programs [29,30].

In contrast, topics such as "Climate Change" received increasing and significant funding, underscoring the centrality of SDG 13 (Climate Action). Investment linked to this theme rose from 6.6% in 2014 to 15.9% of total funding in 2020 (see Table 6 and Figure 5). This trend aligns with the adoption of the European Green Deal, which established climate action as a cross-cutting EU policy priority [25].

SDG 3 (Good Health and Well-Being) also exhibited strong representation, with the keyword "Health" associated, on average, with 16.5% of total project funding, signaling a meaningful integration of health topics into education-focused projects [31]. Similarly, SDG 5 (Gender Equality) showed a positive evolution, though with less intensity, rising from 2.4% to 4.1% of funding between 2014 and 2020 (see Table 7 and Figure 6).

Conversely, the presence of the keywords "Poverty" and "Inequalities" suggests that SDG 1 (No Poverty) and SDG 10 (Reduced Inequalities) have received more peripheral attention. Although few projects directly reference these terms, the funding linked to "Poverty" shows a declining trend, whereas "Inequalities" exhibited modest growth (see Tables 10 and 11). These trends highlight persistent challenges in mobilizing ERASMUS+ funding toward issues of social equity and cohesion.

The keyword "Innovation," which cuts across several SDGs, is among the most frequent in the database (see Table 15), reflecting not only a focus on SDG 9 (Industry, Innovation, and Infrastructure) but also connections to SDG 4 (Quality Education) and SDG 7 (Affordable and Clean Energy). Cross-referenced analysis reveals 5109 projects combining "Education" and "Innovation", and 353 projects combining "Innovation" and "Energy", suggesting a strong multidimensional character in project design [32].

The keyword "Sustainability" appears in 3795 projects (see Table 14), often overlapping with "Climate Change" and "Energy". This overlap supports the inference that SDG 11 (Sustainable Cities and Communities) is being promoted, with possible indirect links to SDG 12 (Responsible Consumption and Production) and SDG 15 (Life on Land) [33].

SDG 17 (Partnerships for the Goals) does not appear directly from keyword searches but can be inferred through action lines such as "Cooperation for Innovation and the Exchange of Good Practices." This collaborative approach is a core component of the ERASMUS+ framework, fostering transnational networks and knowledge exchange [2,5].

The summary provided in Table 18 confirms that the SDGs with the strongest representation and growth throughout the period analyzed are SDG 3 (Health), SDG 4 (Education), SDG 7 (Energy), SDG 9 (Innovation), and SDG 13 (Climate Action). In contrast, SDGs 2, 6, 14, and 17 stay underrepresented or absent, signaling strategic opportunities for enhanced focus in future ERASMUS+ funding cycles.

Table 18. Summary of the analysis about the promotion of the SDGs in ERASMUS+ KA2 projects (2014–2020).

SDG	Is It Promoted?	Trend	Keywords
1. No poverty	Yes (Low)	Decreasing	Poverty
2. Zero hunger	No	–	Hunger
3. Good health and well-being	Yes (Strongly)	Increasing	Health
4. Quality education	Yes (Strongly)	Stable	Education/Innovation
5. Gender equality	Yes	Increasing	Gender equality
6. Clean water and sanitation	No	–	Water/Sanitation
7. Affordable and clean energy	Yes	Increasing	Renewable energy
8. Decent work and economic growth	?	?	?
9. Industry, innovation, and infrastructure	Yes	Increasing	Industry/Innovation
10. Reduced inequalities	Yes (Low)	Increasing	Inequalities
11. Sustainable cities and communities	Yes	Increasing	Sustainability
12. Responsible consumption and production	?	?	?
13. Climate action	Yes (Strongly)	Increasing	Climate change
14. Life below water	No	–	Water/Marine/Ocean
15. Life on land	?	?	?
16. Peace, justice, and strong institutions	Yes (Low)	Stable	Justice
17. Partnerships for the goals	?	?	?

Note: Question marks indicate insufficient keyword evidence to confirm thematic representation.

As previously mentioned, for some Sustainable Development Goals, specifically SDGs 8, 12, 15, and 17, we were unable to find specific keywords that would confirm their inclusion in the funded proposals. Consequently, Table 18 reflects this uncertainty by showing these goals with a question mark under the categories of promotion and growth. In the case of SDGs 2, 6, 8, and 14, the data show no significant funding associated with their related themes, which further prevents us from inferring any trajectory of growth over the period analyzed.

As a final note, it is important to distinguish SDG 17 (Partnerships for the Goals) from SDGs 8, 12, and 15. Although we could not identify precise keywords to verify the presence of the latter three, SDG 17 can be inferred through its alignment with various sub-lines of action within the ERASMUS+ KA2 program, particularly those falling under the category of "Cooperation for Innovation and the Exchange of Good Practices." This structural orientation inherently supports the collaborative ethos promoted by SDG 17, even if the term itself does not appear explicitly in project metadata.

Compared to studies carried out in other international contexts, such as Horizon 2020, UNESCO Global Action Programme or OECD Learning Compass, a converging trend is observed: education and climate are dominant themes, while the SDGs related to responsible production and consumption (SDG 12), life on land (SDG 15) and global partnerships (SDG 17) remain less addressed [8,27,28].

This pattern confirms that research and funding priorities tend to privilege the most visible and institutionally valued areas, to the detriment of other pillars of sustainability [27,28]. The authors analyzed the digital and green transitions in higher education and their uneven relationship with different SDGs [27]. In the same line, recent global mapping studies confirm that political and discursive priorities continue to be concentrated in areas such as education and climate [28].

It is recognized that the keyword-based method of analysis has limitations, especially due to the dependence on the textual surface of the metadata. However, recent bibliometric studies show that methodologies based only on keywords tend to capture only the textual surface, neglecting the semantic and contextual relationships between themes and objectives [24].

To overcome these constraints, it is recommended that future research integrate artificial intelligence and natural language processing (NLP) techniques capable of identifying semantic and contextual relationships between texts and the objectives of the 2030 Agenda. Recent work demonstrates the potential of using AI tools to align educational projects and reports with the SDGs [34,35]. In a convergent way, Leal Filho et al. highlight the emerging role of AI in the integration of sustainability principles in higher education [36]. Similar results were obtained by Sundemo et al., who applied natural language processing techniques to map sustainability in academic theses [37].

The adoption of automatic SDG classifiers, based on supervised learning models, will allow greater accuracy and analytical relevance to be achieved in the next stages of this line of research. Recent systematic studies also reinforce the central role of AI in aligning higher education and SDGs [35–37].

6. Conclusions

In general, the results obtained show that the ERASMUS+ KA2 program, during the analyzed period, has significantly promoted the Sustainable Development Goals (SDGs), both in terms of the number of projects associated with them and the corresponding funding. Moreover, the values found generally showed growth between 2014 and 2020. These findings respond to our first research question:

"To what extent can the proposals accepted in the ERASMUS+ KA2 projects foster, between 2014 and 2020, the dissemination of the foundations of sustainable development objectives in schools and universities?"

The second research question is given below:

"Which SDGs are represented in the funded proposals, and which are underrepresented or absent over the period analyzed?"

The results show that projects related to SDG 3 (Good Health and Well-Being), SDG 4 (Quality Education), and SDG 13 (Climate Action) received the most significant funding. The growth in funding for SDG 13-related projects is particularly remarkable. In addition, we saw increased investment in projects aligned with other SDGs that started with lower funding, such as SDG 5 (Gender Equality), SDG 7 (Affordable and Clean Energy), SDG 9 (Industry, Innovation and Infrastructure), SDG 10 (Reduced Inequalities), and SDG 11 (Sustainable Cities and Communities).

The analysis revealed that SDG 1 (No Poverty) is associated with a limited number of projects and low funding, which decreased over the period. Projects associated with SDG 2 (Zero Hunger), SDG 6 (Clean Water and Sanitation), and SDG 14 (Life Below Water) received negligible funding and showed minimal presence, indicating that these goals were not significantly addressed by the funded proposals.

Previous studies [5,6] have indicated that the general objectives of the ERASMUS+ program align with several SDGs, particularly SDG 4, SDG 8 (Decent Work and Economic Growth), and, indirectly, SDG 5, as well as SDG 10, SDG 13, and SDG 16 (Peace, Justice and Strong Institutions). Compared to the findings of this study, the current analysis confirms that there is substantial funding for SDG 4 and SDG 13, while others, such as SDG 8, did not receive meaningful financial support in the analyzed period.

Furthermore, the data points to notable discrepancies concerning some sustainability-focused SDGs. In particular, SDG 6 and SDG 14 were virtually absent in terms of associated project funding. The almost non-existent funding for SDG 2, alongside the weak investment in SDG 1, also undermines the effective promotion of SDG 10, which is considered an intrinsic component of the ERASMUS+ program's mission [6].

The present analysis offers a valuable reference for ERASMUS+ policymakers, especially regarding the distribution of funding and the strategic direction of future calls for proposals. It highlights the need to strengthen support for underrepresented SDGs. A similar evaluation should be conducted for projects funded after 2020, particularly upon the conclusion of the 2021–2027 funding cycle, to assess whether these imbalances have been addressed and whether broader alignment with the 2030 Agenda has been achieved.

From a theoretical point of view, we demonstrate the analytical utility of metadata as a proxy for alignment with the SDGs, evidencing patterns and asymmetries between goals. On the practical/political level, the results suggest the following: (i) encourage explicit mention of underrepresented SDGs (e.g., SDGs 2, 6, 14) in future calls; (ii) standardize descriptive fields of applications (topics, keywords, abstracts) to improve monitoring; and (iii) promote systematic crossings between themes and sub-lines of action. Limitations include the selection by keywords, the heterogeneity of the abstracts and the absence of impact metrics (intentions were analyzed). It is recommended to carry out longitudinal studies and qualitative analyses of outputs to assess results and transferability.

Finally, the need to improve textual analysis tools and standardize the thematic labeling of ERASMUS+ applications is reinforced in order to ensure greater coherence and comparability between projects and SDGs. This approach is consistent with recent developments in educational AI research, which combines semantic analysis and supervised learning for sustainability purposes [38]. This study thus constitutes an exploratory basis

for the future application of NLP and semantic AI techniques in monitoring the educational and social impacts of European cooperation programs.

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