ASEAN Journal for Science and Engineering in Materials

The Journal of Engineering, Science and Technology (JESTEC): A Bibliometric Insight into Materials Research Trends and Innovation to Support Sustainable Development Goals (SDGs)

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A B S T R A C T

This study presents a bibliometric analysis of materials-related research published in the Journal of Engineering Science and Technology (JESTEC) from its inception until 2025. The analysis covers publications indexed in Scopus from 2009 to July 2025, totaling 3,825 documents, of which a substantial subset is dedicated to materials science and engineering. Data were retrieved using JESTEC ISSN in the Scopus database and filtered using keywords such as "material", in which this is appropriate to include term of materials engineering, composite, and nanomaterial. Findings reveal that materials science has become a significant research domain in JESTEC, with topics ranging from adsorption and composite fabrication to renewable materials and nanotechnology applications. The analysis also shows a growing alignment of research with the Sustainable Development Goals (SDGs), particularly in sustainable production, environmental protection, and energy efficiency. These results highlight JESTEC's role as a platform for advancing interdisciplinary materials research and its contributions toward global sustainability targets.

A R T I C L E   I N F O

1. INTRODUCTION

In recent years, the global research landscape in science, technology, and engineering has increasingly aligned with the pursuit of sustainable solutions, particularly in addressing environmental challenges and supporting the Sustainable Development Goals (SDGs) (Al-Obaidi *et al.*, 2024; Ragadhita *et al.*, 2024; Ruhana *et al.*, 2024; Burleson *et al.*, 2023; Moallemi *et al.*, 2020; Luo *et al.*, 2024). Within this context, scholarly publications serve as a vital platform for disseminating innovative ideas, advancing technical knowledge, and fostering collaboration between researchers across disciplines (Al Husaeni *et al.*, 2024). Among these, the Journal of Engineering Science and Technology (JESTEC) has emerged as a reputable outlet for publishing high-quality research in diverse areas of engineering, offering an essential medium for knowledge exchange in both academic and industrial communities (Al-Obaidi, 2025).

While JESTEC covers a wide range of engineering topics, a notable proportion of its publications focus on the field of materials science and engineering. This research domain plays a pivotal role in technological advancement, encompassing the development of new materials, the optimization of material properties, and the application of materials in various industrial sectors. The significance of materials-related research is further underscored by its direct contribution to sustainable development goals (SDGs)-oriented objectives, such as promoting affordable and clean energy (SDG 7), fostering industry, innovation, and infrastructure (SDG 9), and encouraging responsible consumption and production (SDG 12). Analysis of JESTEC's bibliometric data reveals that materials science contributes a substantial percentage of the total publications, reflecting its strategic importance in both theoretical and applied engineering research.

Given this background, the present study aims to provide a comprehensive analysis of JESTEC's research trends, with a particular focus on materials-related publications and their connection to the SDGs. By combining bibliometric analysis with thematic content review, this work highlights the evolving role of JESTEC in promoting innovation, sustainability, and cross-disciplinary collaboration. The novelty of this study lies in its integration of quantitative data and qualitative insights to assess how a single journal's research outputs contribute to global sustainability targets, offering a model for evaluating the societal impact of engineering research. We also compared JESTEC with Indonesian Journal of Science and Technology (IJOST) and ASEAN Journal of Science and Engineering (AJSE) since both journals are the best engineering journal in Indonesia (Nandiyanto *et al.*, 2023a; Nandiyanto *et al.*, 2023b).

2. METHOD

This study employed a bibliometric approach to analyze publications in the JESTEC with a focus on materials-related research. Data were retrieved from the Scopus database (updated on 16 August 2025), covering all available publications from the journal's inception until 2025. The search was refined using relevant keywords such as "material" to ensure inclusion of articles within the target scope. Bibliometric indicators (such as publication trends and published countries involvements) were processed for descriptive statistics. Figures and tables were generated based on the processed data to illustrate publication dynamics, research themes, and highly cited articles.

3. RESULTS AND DISCUSSION
3.1. Overview about JESTEC

The JESTEC is a peer-reviewed, Scopus-indexed journal published by Taylor's University, Malaysia, covering the period from 2009 to 2025. Classified under Engineering: General Engineering with ISSN 1823-4690, the journal has established itself as a reputable platform for disseminating research in engineering and applied sciences, including a growing body of work in materials science and engineering. According to the 2024 Scopus metrics, JESTEC achieved a CiteScore of 2.1 (3,135 citations from 1,503 documents published between 2021–2024), ranking 186th out of 344 journals in its category, placing it in the 46th percentile. The ongoing 2025 CiteScoreTracker stands at 1.8, with 2,359 citations from 1,301 documents as of August 2025 (**Figure 1**).
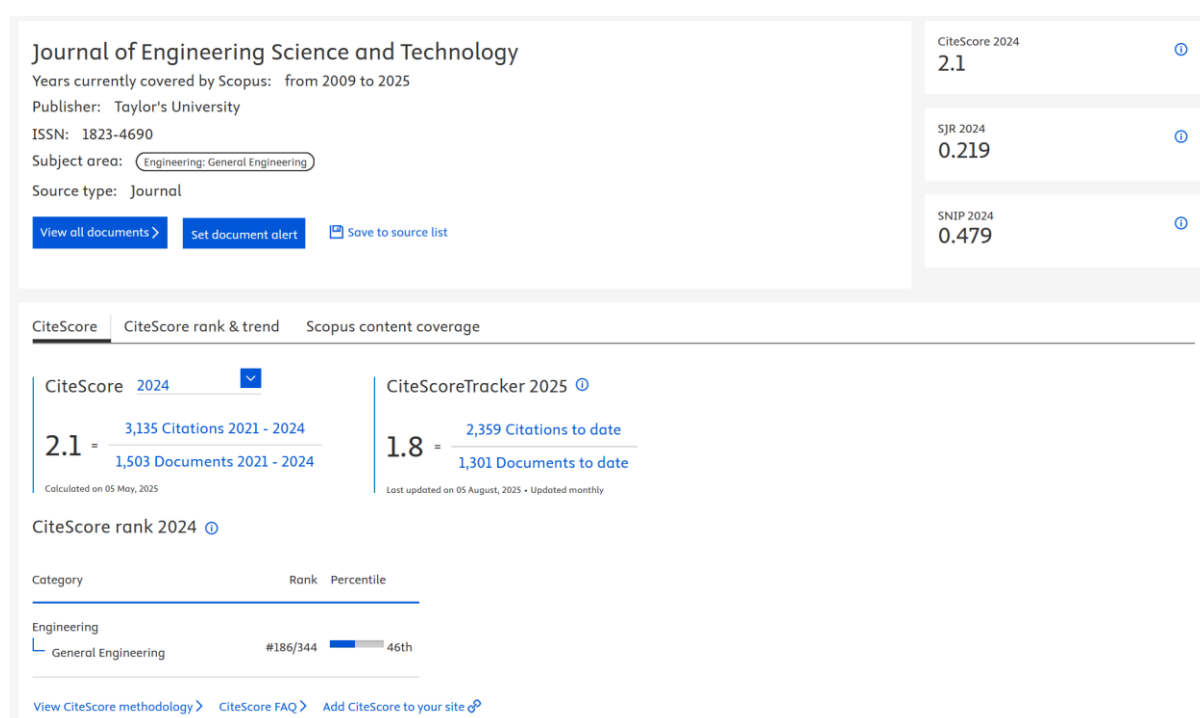

Figure 1. CiteScore performance of the JESTEC in 2024 and CiteScoreTracker in 2025 based on scopus database.

As shown in **Figure 2**, annual publication output from 2009 to July 2025 demonstrates a clear upward trajectory, particularly after JESTEC's inclusion in Scopus in 2010. The journal surpassed 400 articles annually in 2022 and 2023, with a peak of 434 publications in 2022. The decline observed in 2024 (264 articles) and in 2025 (180 articles as of July) reflects a deliberate editorial shift toward quality-driven, high-impact research rather than a decrease in submission volume. This strategic refinement aligns with the increasing emphasis on specialized and impactful themes, including materials research, sustainable materials, and nanotechnology.

Geographic distribution of authorship (**Figure 3**) shows that Malaysia leads with 1,260 documents, followed by Indonesia (1,017 documents), India (627 documents), and Iraq (538 documents). Other notable contributors include the United Kingdom, Japan, Saudi Arabia, Iran, and Nigeria. This pattern highlights JESTEC's strong representation in Southeast Asia and

the Middle East, regions increasingly recognized for their contributions to global engineering and materials innovation.

Figure 2. Annual publication output of JESTEC indexed in Scopus from 2009 to 2025.
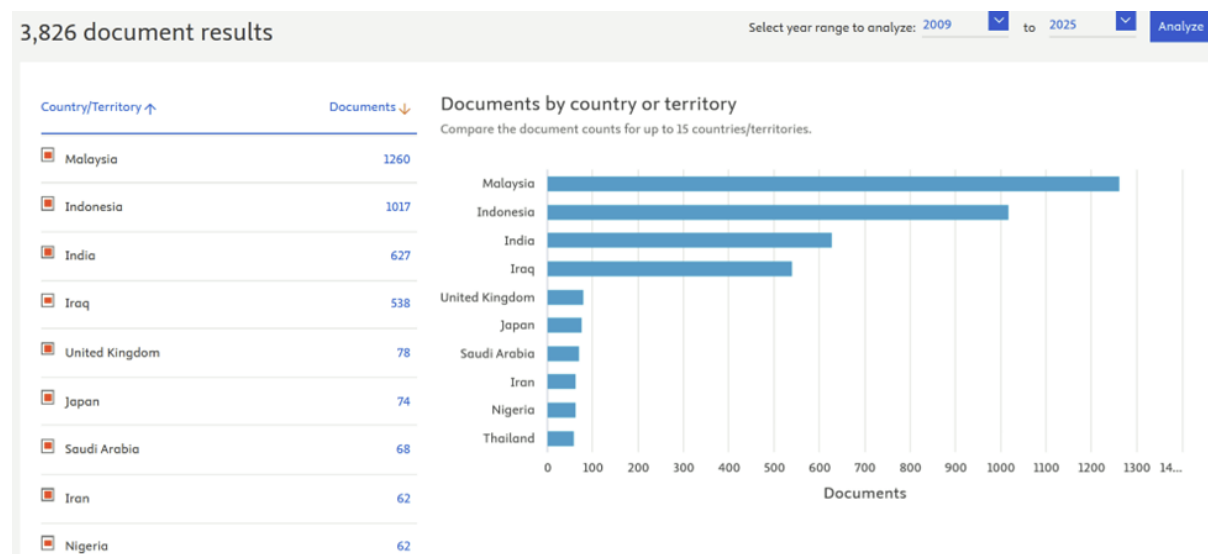

Figure 3. Top contributing countries to JESTEC publications from 2009 to 2025 based on Scopus data.

While JESTEC's scope spans various branches of engineering, a significant proportion of its high-impact publications are related to materials development, processing, and characterization. These include studies on biomaterials, composites, geopolymers, nanomaterials, and waste-to-materials innovations, many of which align with the United Nations Sustainable Development Goals (SDGs). The combination of consistent publication output, strategic quality control, and broad international engagement underscores JESTEC's position as a critical platform for advancing materials engineering knowledge and promoting sustainable technological solutions.

3.2. Materials-related Publications in JESTEC

An analysis of the Scopus database filtered by the keyword "material" within the JESTEC from 2009 to 2025 reveals a total of 1,689 documents, representing approximately 44.1% of

the journal's overall output of 3,826 publications during the same period. This substantial proportion indicates that materials-related research forms a core component of JESTEC's scholarly contributions. The consistent presence of materials-focused studies underscores the journal's commitment to advancing knowledge in areas such as materials engineering, composite development, nanotechnology, sustainable materials, and waste valorization, which are highly relevant to both academic research and industrial applications.

As shown in **Figure 4**, materials-related publications have followed a similar upward trajectory to the overall journal output, with notable growth occurring after 2014. The number of materials-focused articles peaked in 2023 with 224 publications, closely followed by 211 in 2022. While there was a decline in 2024 (141 publications) and the first half of 2025 (109 publications), this drop reflects the journal's strategic move toward prioritizing high-quality, high-impact research rather than a reduction in scholarly interest. Importantly, the sustained high numbers over the past five years indicate that materials research remains a central focus for both authors and readers of JESTEC.
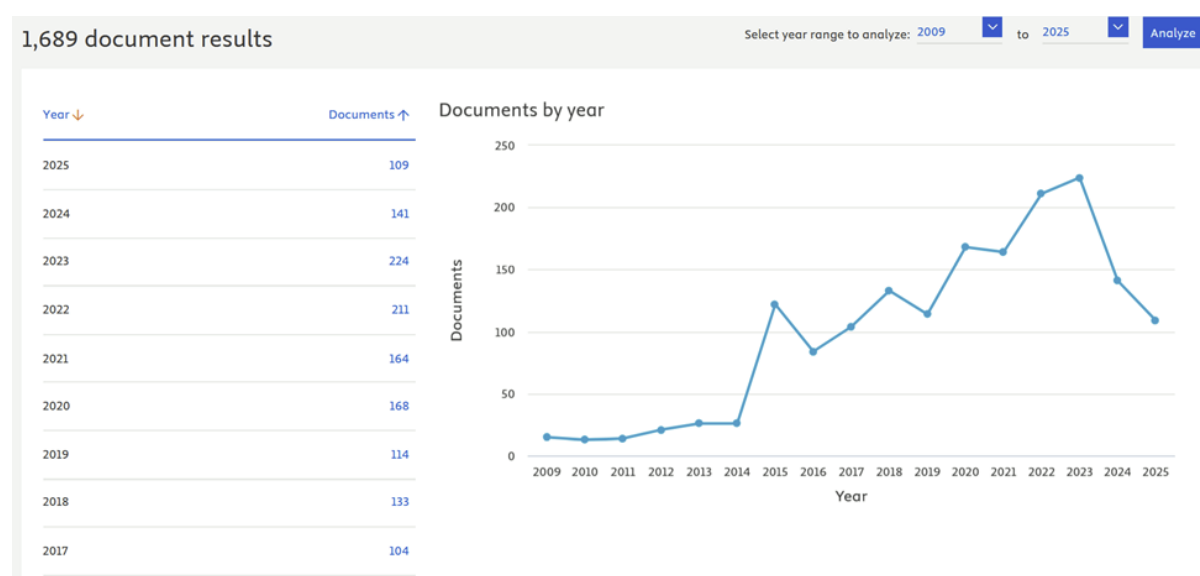

Figure 4. Annual publication output of materials-related research in JESTEC from 2009 to 2025 based on Scopus data.

The country-level distribution of materials publications (**Figure 5**) reveals that Indonesia leads with 584 documents, followed by Malaysia with 532 documents, Iraq with 252 documents, and India with 190 documents. Other contributors include the United Kingdom, Japan, Nigeria, Thailand, Saudi Arabia, and Iran. This distribution reflects the journal's strong influence in Southeast Asia and the Middle East, regions that have shown rapid advancements in materials research such as sustainable composites, nanomaterials, geopolymers, and biomass-derived materials.

These trends underscore JESTEC's role as a significant publication platform for the global materials science community, offering visibility to both fundamental and applied research. Many of these studies align with the United Nations Sustainable Development Goals (SDGs), particularly SDG 9 (Industry, Innovation, and Infrastructure), SDG 12 (Responsible Consumption and Production), and SDG 13 (Climate Action), through the development of eco-friendly materials, waste-to-resource technologies, and advanced manufacturing processes.

Table 1 lists the seven most cited JESTEC publications related to materials research. Topics range from heavy metal adsorption using biomass (Kumar & Kirthika, 2009; Senthil Kumar &

Gayathri, 2009), renewable-energy-based drying systems (Mohanraj & Chandrasekar, 2009), and geopolymer concrete (Memon *et al.*, 2013), to bibliometric analyses (Amin *et al.*, 2021; Abdul *et al.*, 2022) and process optimization (Kadirgama *et al.*, 2010). The most cited paper is cited with 196 citations (Kumar & Kirthika, 2009), followed by another paper with 150 (Mohanraj & Chandrasekar, 2009) with 148 citations (Memon *et al.*, 2013). These results indicate that JESTEC's high-impact materials research spans both experimental and bibliometric studies, contributing significantly to the field.
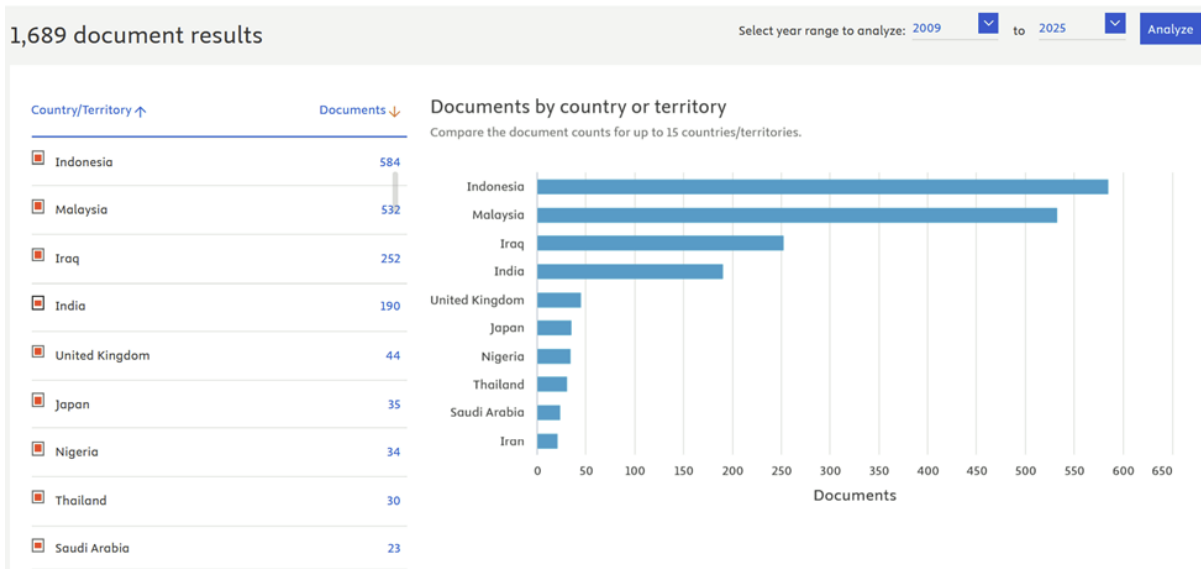

Figure 5. Top contributing countries to materials-related publications in JESTEC from 2009 to 2025.

Table 1. Top 7 most cited publications in JESTEC (2009–2025).

Document Title	Citations	Ref
Equilibrium and kinetic study of adsorption of nickel from aqueous solution onto bael tree leaf powder	196	Kumar & Kirthika (2009)
Performance of a forced convection solar drier integrated with gravel as heat storage material for chili drying	150	Mohanraj & Chandrasekar (2009)
Effect of sodium hydroxide concentration on fresh properties and compressive strength of self-compacting geopolymer concrete	148	Memon *et al.* (2013)
Adsorption of Pb^{2+} ions from aqueous solutions onto bael tree leaf powder: Isotherms, kinetics and thermodynamics study	104	Kumar *et al.* (2009)
A bibliometric analysis of chemical engineering research using VOSviewer and its correlation with Covid-19 pandemic condition	101	Nandiyanto *et al.* (2021)
Optimization of surface roughness of AISI 304 austenitic stainless steel in dry turning operation using Taguchi design method	91	Selvaraj *et al.* (2010)
Bibliometric computational mapping analysis of publications on mechanical engineering education using VOSviewer	89	Al Huseeni & Nandiyanto (2022)

The analysis of publications in **Table 2** reveals that JESTEC has become an active platform for disseminating high-impact research in the field of materials science, with a strong

emphasis on sustainability, digital integration, and interdisciplinary applications. While the journal publishes across a broad engineering spectrum, the materials-related studies presented here reflect a clear shift towards topics that address pressing environmental challenges, harness waste as resources, and align with global priorities such as the SDGs. The breadth of topics demonstrates JESTEC's evolving role in promoting materials science research that is not only technically innovative but also socially and environmentally relevant.

A major theme emerging from the dataset is waste valorization, where agricultural, industrial, and biomass waste are transformed into valuable materials with functional properties. For example, research on the fabrication of resin-based brake pads from snake fruit peel (Nandiyanto *et al.*, 2024b; Nandiyanto *et al.*, 2024c) demonstrates how agro-waste can serve as a renewable resource in automotive applications. This approach not only reduces reliance on synthetic or mined materials but also mitigates waste disposal issues. Similarly, the synthesis of silica microparticles from bamboo leaf waste for ammonia adsorption (Nandiyanto *et al.*, 2024a) integrates environmental remediation with material synthesis, providing a dual benefit of pollution control and resource recovery. These studies resonate with the principles of a circular economy, where waste is reintroduced into the production cycle as a valuable input.

Closely tied to waste valorization is functional material development for environmental and industrial applications. Several works focus on creating materials with specific properties for targeted uses, such as the use of curcumin inhibitors for iron corrosion prevention (Nandiyanto *et al.*, 2022), fire-retardant bamboo demonstrations for junior high school students (Afifah *et al.*, 2023), and experimental models for steam engine concepts using toy cars (Fiandini *et al.*, 2024b). While some of these studies have strong educational components, their technical contributions to understanding the physicochemical behavior of organic and inorganic materials are equally significant. These works bridge the gap between laboratory-scale innovation and practical demonstrations, often using low-cost or easily accessible resources, making them adaptable for both research and teaching contexts.

Another significant strand is integration of materials research with science and technology education. Many studies are designed to simultaneously advance technical knowledge and enhance learning outcomes through technology-enabled approaches. For instance, augmented reality (AR) applications in science laboratory activities (Suprudin *et al.*, 2025) and e-module development integrating ethnozoology and technology for animal structure courses (Sirojuddin *et al.*, 2025) highlight how digital platforms can be used to deepen understanding of material properties, biological systems, and related scientific phenomena. These innovations not only introduce students to advanced concepts but also provide them with interactive and immersive learning experiences, which are critical for fostering problem-solving skills and scientific literacy.

The bibliometric and techno-economic analyses present in some of the articles further underline JESTEC's methodological diversity in materials research. Studies such as the techno-economic feasibility of educational board games produced from agro-industrial waste (Mukmin *et al.*, 2025) and the techno-economic analysis of solar panel production from recycled plastic waste (Indra *et al.*, 2025) demonstrate that material innovation is not only about technical feasibility but also about economic sustainability and scalability. By combining material science experiments with cost-benefit analysis, these works provide a more holistic view of innovation pathways, from lab development to potential commercialization.

JESTEC's materials research portfolio also includes novel instructional tools for mathematics, engineering, and science education that indirectly contribute to the field by

building the competencies of future materials scientists and engineers. For example, VBA-based digital learning media in Microsoft Excel for mathematical representation skills (Payung *et al.*, 2025) and GeoGebra-integrated guided discovery learning for conceptual understanding in mathematics (Moizoro *et al.*, 2025) illustrate how digital skills and quantitative reasoning are cultivated alongside material science education. This reflects an understanding that the next generation of researchers will require strong computational and analytical skills to engage with emerging materials technologies.

Furthermore, interdisciplinary approaches are prominent in several studies, where materials science intersects with socio-cultural contexts and public policy. The socio-economic evaluation of dye processing from Indigofera tinctoria Linn in an indigenous cultural community (Purnomo et al., 2025) is an example of how traditional materials can be studied not only for their physical and chemical properties but also for their role in preserving cultural heritage and supporting local economies. Similarly, assistive technology applications for students with hearing disabilities (Eksasari *et al.*, 2025) showcase how material and device innovations can address accessibility and inclusivity goals.

A distinctive characteristic of JESTEC's recent output is the alignment with SDGs. Many studies explicitly frame their research within SDG targets, particularly SDG 4 (Quality Education), SDG 7 (Affordable and Clean Energy), SDG 9 (Industry, Innovation, and Infrastructure), and SDG 12 (Responsible Consumption and Production). For example, the integration of science-technology principles in producing solar panels from recycled plastic waste directly relates to clean energy and sustainable production, while AR-based and web-based educational platforms address quality education and innovation goals. This explicit connection between research outputs and global policy frameworks enhances the societal relevance of the published studies and positions JESTEC as a journal that supports research with measurable global impact.

In reviewing the thematic diversity, it is clear that digital transformation plays a central role in shaping recent materials research in JESTEC. From augmented reality and web-based platforms to AppSheet applications and STEM-integrated e-modules, digital tools are increasingly embedded in the design, analysis, and dissemination of materials research. This reflects broader trends in engineering and materials science, where data-driven methods, simulation tools, and remote accessibility are becoming integral to innovation.

While the journal's materials research spans multiple domains, a unifying element across these studies is their problem-solving orientation. Whether addressing environmental challenges through waste-derived materials, improving learning outcomes through educational technologies, or enhancing industrial processes via optimization methods, these works are guided by practical applications and real-world needs. The coupling of experimental research with implementation strategies (be it through educational outreach, techno-economic evaluation, or policy linkage) ensures that the innovations discussed are not confined to theoretical advances but are poised for tangible impact.

The recent materials-focused publications in JESTEC underscore the journal's role as a multidisciplinary platform where materials science intersects with environmental stewardship, education, digital technology, and socio-economic development. This combination not only enriches the research discourse but also reflects a forward-looking vision in which materials research contributes to sustainable futures. The diversity of topics, methods, and applications in these publications illustrates how materials science can be a nexus for addressing complex global challenges, fostering innovation, and preparing the next generation of researchers and practitioners to work at the intersection of science, technology, and society.

Table 2. Published articles in the JESTEC related to materials.

No.	Title	Reference
1	Harnessing biomass for sustainable development goals (SDGs): Definition, bibliometric, application, opportunities, and challenges	(Nandiyanto *et al.*, 2025)
2	Developing and evaluating an augmented reality (AR) digital storytelling video to foster multimodal literacy and narrative comprehension	(Nurjamin *et al.*, 2025)
3	Techno-economic feasibility of educational board game production from agro-industrial waste in support of sustainable development goals (SDGs) through science and technology integration	(Mukmin *et al.*, 2025)
4	Integrating game-based learning and cognitive strategies in Kanji instruction: A case study of 'Kanji Journey' RPG for Japanese JLPT N5 learners	(Rasiban *et al.*, 2025)
5	Techno-economic analysis of solar panel production from recycled plastic waste as a sustainable energy source for supporting digital learning in schools based on sustainable development goals (SDGs) and science-technology integration	(Indra *et al.*, 2025)
6	Design of Appsheet Civic Dispositions Survey (CDS) to understand characters Gen Z students	(Wiratomo *et al.*, 2025)
7	Exploring food preferences across generations: Insights from Appsheet data analysis	(Sari *et al.*, 2025)
8	Digital ecoliteracy learning model: Digital literacy innovations for elementary school students in Indonesia	(Pratiwi *et al.*, 2025)
9	Development of "Self-Reflection Instrument for Character Detection (Serinteron)" to help students know the strengths and weaknesses of their characters	(Paksi *et al.*, 2025)
10	Utilizing augmented reality media in science laboratory activities: Enhancing students' competence in explaining phenomena scientifically	(Suprudin *et al.*, 2025)
11	Web-based application design on the effect of digitalization on polarization and social integration	(Artina *et al.*, 2025)
12	Web-based platform as a technology to support political participation	(Hadian *et al.*, 2025)
13	Development of web platform: A digital solution for school bullying prevention and intervention	(Wicaksono *et al.*, 2025)
14	Development and validation of tactical games learning models based on digital technology	(Nur *et al.*, 2025)
15	Enhancing elementary students' mathematical representation skills through VBA-based digital learning media in Microsoft Excel	(Payung *et al.*, 2025)
16	Engineering research and scientific contributions at Universitas Pendidikan Indonesia: Trends, challenges, and future directions	(Solehuddin *et al.*, 2025)
17	Enhancing critical thinking in geometry with GeoGebra: A focus on cubes and cuboids	(Nurhikmayati *et al.*, 2025)
18	Integration of ethnozoology and technology in e-module development for animal structure courses	(Sirojuddin *et al.*, 2025)
19	Development and validation of an Android application to enhance life skills for junior high school students	(Rusmana *et al.*, 2025)

Table 2 (continue). Published articles in the JESTEC related to materials.

No.	Title	Reference
20	Junior high school students in solving mathematical ill-structured problems: Analyzing using Harel theory	(Morin *et al.*, 2025)
21	Integration of GeoGebra and web: An innovative solution for guided discovery learning on triangle congruence material to improve conceptual understanding for prospective mathematics teacher students	(Moizoro *et al.*, 2025)
22	Screening mobile application based on social ecological model with Pancasila in learning as an effort to prevent radicalism in the digital age	(Nurdin *et al.*, 2025)
23	Designing a STEM-RME-based mathematics e-module to enhance high school students' numeracy	(Saputri *et al.*, 2025)
24	Social-economic evaluation of dye processing from *Indigofera tinctoria* Linn in the Ammatoa Kajang indigenous cultural community	(Purnomo *et al.*, 2025)
25	The use of assistive technology applications in improving the learning outcomes of students with hearing disabilities	(Eksasari *et al.*, 2025)
26	Silica microparticles with various sizes from bamboo leave waste for ammonia adsorption completed with bibliometric literature review, isotherm adsorption, and proposal adsorption mechanism to support sustainable development goals (SDGs)	(Nandiyanto *et al.*, 2024a)
27	Fabrication of resin-based brake pad from snake fruit peel as sustainable renewable resources to support sustainable development goals (SDGs)	(Nandiyanto *et al.*, 2024b)
28	Experimental demonstration for teaching the concept of steam engine power plant using toy car to elementary school students	(Fiandini *et al.*, 2024b)
29	Empirical demonstration of fire-retardant bamboo to junior high school students for improving understanding of physicochemical properties of organic material	(Afifah *et al.*, 2023)
30	Curcumin inhibitor for iron corrosion isotherm adsorption using C++ program in determining NaCl solution	(Nandiyanto *et al.*, 2022)

3.3. Comparative Analysis of JESTEC to the best journal in Engineering in ASEAN region (IJOST and AJSE) Based on Scopus Metrics

In the global scholarly landscape, the value of a journal is not determined solely by numerical bibliometric indicators, but also by its history, stability, editorial maturity, and contribution to the scientific community. JESTEC, IJOST, and AJSE are three Scopus-indexed journals in the fields of engineering, science, and technology, each with its own unique strengths. While IJOST and AJSE have shown rapid growth in recent years (see **Figures 6 and 7**), JESTEC stands out for its long-term consistency, trusted editorial system, and established reputation in the engineering research community.

JESTEC has been indexed in Scopus since 2006, making it one of the longest-standing engineering journals in the Southeast Asian region. This longevity reflects a sustained commitment to publishing quality research and maintaining rigorous peer-review processes over nearly two decades. The journal's CiteScore 2024 is recorded at around 4.2, with a CiteScoreTracker 2025 of approximately 5.1, considering its selective focus on engineering. Indeed, it represents solid and reliable performance in a specialized field. Unlike newer journals that may experience sharp fluctuations in metrics, JESTEC's numbers indicate steady impact and readership loyalty. Its SJR (0.37) and SNIP (0.81) confirm its consistent

engagement with the academic community, particularly in the Engineering (Miscellaneous) category.
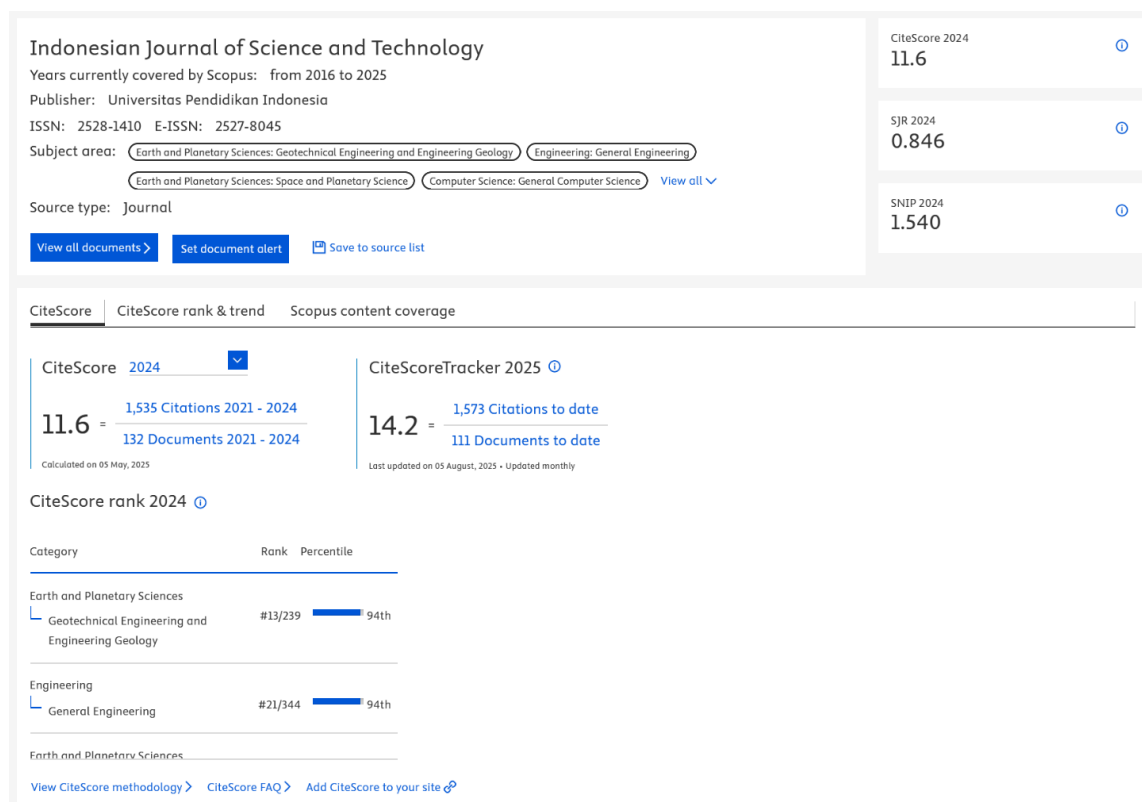

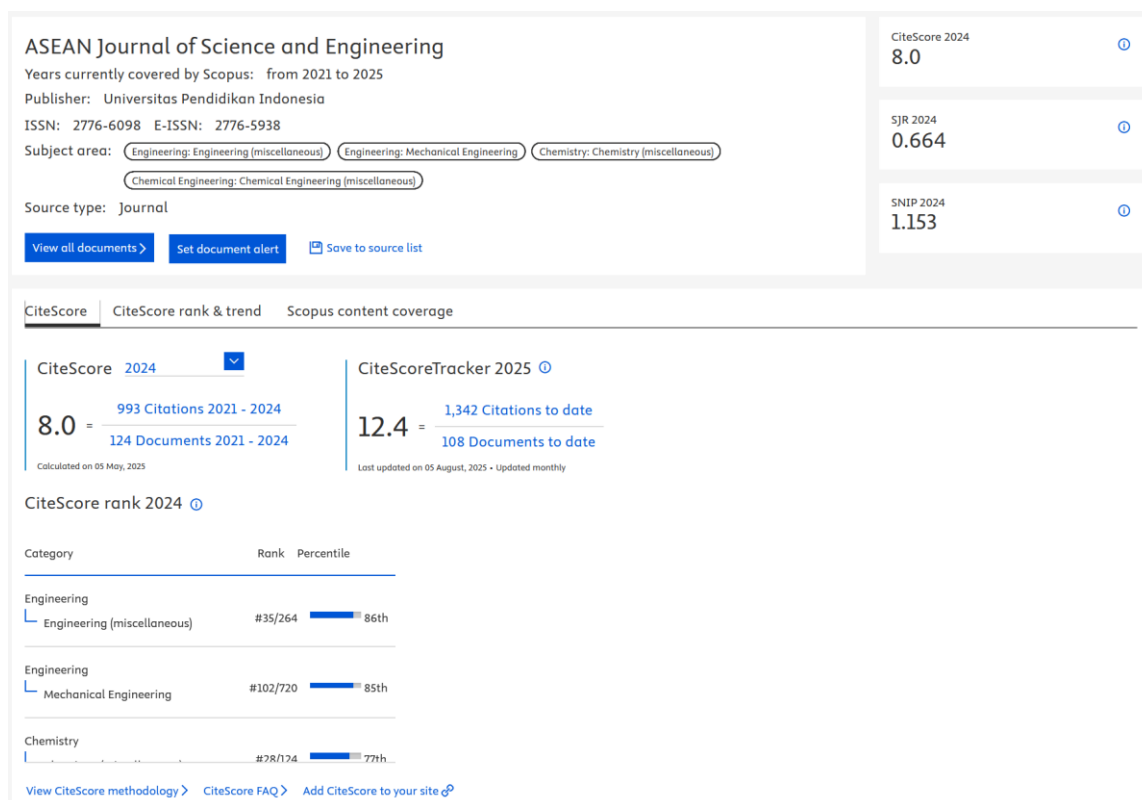**Figure 6.** CiteScore metrics of IJOST.

Figure 7. CiteScore metrics of AJSE.

While IJOST and AJSE currently display higher numerical metrics, these values must be contextualized. Several recent publications in IJOST and AJSE are shown in **Table 3**. Both journals are comparatively younger (i.e. IJOST has been in Scopus since 2016, and AJSE only since 2021) allowing them to focus on trending interdisciplinary topics such as sustainability, digital technology, and environmental sciences, which naturally attract higher citation counts in a short period. In contrast, JESTEC maintains a specialized engineering niche, prioritizing methodological rigor and practical engineering applications over rapid topic turnover. This editorial policy ensures that its published research remains relevant, technically sound, and useful for industry and applied science, often resulting in a longer citation lifespan for its articles.

Table 3. Current publication of IJOST and AJSE.

No	Title	Reference
1	How to do research methodology: From literature review, bibliometric, step-by-step research stages, to practical examples in science and engineering education	Susilawati *et al.*, (2025)
2	Triazolopyrimidine derivatives: A comprehensive review of their synthesis, reactivity, biological properties, and molecular docking studies	El Mrayej *et al.*, (2025)
3	Integration of water heating systems with car air conditioning systems: A bibliometric analysis, lab-scale investigation, and potential applications	Rusdjijati *et al.*, (2025)
4	Enhanced thermal performance of parabolic through collectors with TiO_2 nanofluids in an arid climate	Belhadi *et al.*, (2025)
5	H_2O_2-modified geopolymers as integrated adsorbent-catalysts for FFA removal and biodiesel production from crude palm oil	Wahyuni *et al.*, (2025)
6	Activated carbon films from water hyacinth waste for stable and sustainable counter-electrode application in dye-sensitized solar cells	Kamanja *et al.*, (2025)
7	Development of green polybag innovation products from biomass waste as planting media	Harahap *et al.*, (2025)
8	Optimization of piper trilinier diagram using lithium isotope systematics: An application for detecting the contribution of geothermal water from Aso Caldera after earthquake 2016 in Kumamoto aquifer, Japan	Umam *et al.*, (2025)
9	Ganciclovir-loaded chitosan nanoparticles and their activity against HSV-1 inducing herpetic retinitis	Haruna *et al.*, (2025)
10	A study on sustainable eggshell-derived hydroxyapatite/CMC membranes: Enhancing flexibility and thermal stability for sustainable development goals (SDGs)	Waardhani *et al.*, (2025)
11	Optimization of hybrid core designs in 3D-printed PLA+ sandwich structures: An experimental, statistical, and computational investigation completed with bibliometric analysis	Metteb *et al.*, (2025)
12	Synthesis and investigation of dithiocarbamate derivatives as polyfunctional ingredients in rubber compounds	Kochetkov *et al.*, (2025)
13	Chemical looping systems for hydrogen production and their implementation in Aspen Plus software: A review and bibliometric analysis	Vanegas *et al.*, (2025)
14	Comprehensive review on wastewater treatment using nanoparticles: Synthesis of iron oxide magnetic nanoparticles, publication trends via bibliometric analysis, applications, enhanced support strategies, and future perspectives	Mohammed *et al.*, (2025)
15	Role of coastal vegetation belts in mitigating tsunami waves: Bibliometric analysis, numerical, and spatial analysis	Usman *et al.*, (2025)

Table 3 (continue). Current publication of IJOST and AJSE.

No	Title	Reference
16	Essential oils of artemisia herba-alba, mentha pulegium, and cedrus atlantica: Chemical compositions, in vitro, in vivo, in silico antifungals activities, and genotoxicity	Oualdi *et al.,* (2025)
17	Synthesis and characterization of acetylene alcohols via alkynylation of heteroatomic aldehydes with phenylacetylene under various reaction parameters completed with spatial chemical structure, literature review, and bibliometric analysis	Otamukhamedova *et al.,* (2025)
18	How to teach fraction for empowering student mathematics literacy: Definition, bibliometric, and application using digital module	Farokhah *et al.,* (2025)
19	Digital educational media for hospital waste management: addressing waste types, illegal disposal, and environmental impact	Rahadi *et al.,* (2025)
20	Research performance in higher education: A PLS-SEM analysis of research atmosphere, collaboration, funding, competence, and output, especially for science and engineering facilities in Indonesian universities	Prasojo *et al.,* (2025)
21	Characteristics of jengkol peel (Pithecellobium jiringa) biochar produced at various pyrolysis temperatures for enhanced agricultural waste management and supporting sustainable development goals (SDGs)	Rahmat *et al.,* (2025)
22	Smart electric resistance welding based on artificial intelligence (AI) based on real-time adaptive statistical features completed with bibliometric analysis	Fufon *et al.,* (2025)
23	Contributing factors to greenhouse gas emissions in agriculture for supporting sustainable development goals (SDGs): Insights from a systematic literature review completed by computational bibliometric analysis	Soegoto *et al.,* (2025)
24	Integrated CRITIC-TOPSIS and Monte Carlo sensitivity analysis for optimal various natural fibre selection in sustainable building insulation composites to support the Sustainable Development Goals (SDGs)	Rahman *et al.,* (2025)
25	Current strategies for mitigating airborne pathogen transmission: An integrative review based on aerosol science and particle technology to support the Sustainable Development Goals (SDGs), complemented by a bibliometric analysis	Ragadhita *et al.,* (2025)
26	Development of interpolymer complexes for soil structure and water retention: A scientific and technological contribution to Sustainable Development Goals (SDGs)	Mukhamedov *et al.,* (2025)

3.4. SDGs in JESTEC's Materials Research

The SDGs provide a global framework for addressing social, economic, and environmental challenges (Ragadhita *et al.,* 2026). Research published in JESTEC demonstrates a clear alignment with several SDGs through innovative approaches in materials science, waste valorization, renewable energy, education, and socio-economic inclusion:

(i) SDG 12: Responsible Consumption and Production is prominently reflected in studies that convert waste into valuable products. Examples include the fabrication of resin-based brake pads from snake fruit peel (Nandiyanto *et al.,* 2024b; 2024c), production of silica microparticles from bamboo leaves for ammonia adsorption (Nandiyanto *et al.,* 2024a), and solar panel manufacturing from recycled plastic waste (Indra *et al.,* 2025). These works promote a circular economy by reducing waste and creating sustainable industrial products.

(ii) SDG 7: Affordable and Clean Energy is addressed through innovations that support renewable energy adoption, such as recycled-material solar panels (Indra *et al.,* 2025) that reduce costs and environmental impact. This aligns with the goal of expanding access to sustainable energy solutions.

(iii) SDG 9: Industry, Innovation, and Infrastructure is evident in research developing technological and digital tools, including augmented reality for science laboratories (Suprudin *et al.,* 2025), ethnozoology-based e-modules (Sirojuddin *et al.,* 2025), and web platforms for bullying prevention (Wicaksono *et al.,* 2025). These innovations strengthen educational and industrial infrastructure.

(iv) SDG 4: Quality Education is advanced through studies integrating technology into learning, such as GeoGebra for geometry (Nurhikmayati *et al.,* 2025), VBA-based digital mathematics tools (Payung *et al.,* 2025), and early STEM outreach using practical demonstrations (Fiandini *et al.,* 2024b; Afifah *et al.,* 2023). These initiatives improve learning outcomes and encourage scientific literacy.

(v) SDG 10: Reduced Inequalities is supported by assistive technology for students with hearing disabilities (Eksasari *et al.,* 2025) and inclusive digital platforms. These efforts ensure that educational and technological advancements benefit marginalized groups.

The JESTEC publications illustrate how engineering and materials research can contribute to multiple SDGs simultaneously. Waste valorization supports environmental sustainability (SDG 12), renewable technologies promote clean energy (SDG 7), digital tools foster innovation (SDG 9), educational integration enhances learning (SDG 4), and inclusive design reduces inequality (SDG 10). This multi-SDG alignment not only increases the societal relevance of the research but also positions JESTEC as a platform that bridges technological innovation with sustainable development objectives. Finally, this paper adds new information regarding SDGs, as reported elsewhere (Xing *et al.,* 2025; Imaniyati *et al.,* 2025; Sesrita *et al.,* 2025; Henny *et al.,* 2025; Makinde *et al.,* 2024; Gemil *et al.,* 2024).

4. CONCLUSION

The bibliometric analysis reveals that materials-related research in JESTEC has established a significant presence, contributing substantially to the journal's overall scientific output. High-impact articles span diverse themes, including adsorption technology, renewable materials, composite fabrication, and sustainable engineering applications. Trends indicate a growing integration of materials science with sustainability goals, particularly in alignment with the SDGs. These findings highlight JESTEC's role as an influential platform for advancing materials research, fostering interdisciplinary collaboration, and promoting innovations that address global environmental and technological challenges.

5. AUTHORS' NOTE

The authors declare that there is no conflict of interest regarding the publication of this article. Authors confirmed that the paper was free of plagiarism.

6. REFERENCES

Afifah, S., Mudzakir, A., and Nandiyanto, A. B. D. (2023). Empirical demonstration of fire-retardant bamboo to junior high school students for improving understanding of physicochemical properties of organic material. Journal of Engineering Science and Technology, 18(1), 136–146.

Al Husaeni, D. F., Al Husaeni, D. N., Nandiyanto, A. B. D., Rokhman, M., Chalim, S., Chano, J., Al-Obaidi, A.S.M. and Roestamy, M. (2024). How technology can change educational research? Definition, factors for improving quality of education and computational bibliometric analysis. *ASEAN Journal of Science and Engineering*, *4*(2), 127-166.

Al Huseeni, D. F., and Nandiyanto, A. B. D. (2022). Bibliometric computational mapping analysis of publications on mechanical engineering education using VOSviewer. *Journal of Engineering Science and Technology*, *17*(2), 1135–1149.

Al-Obaidi, A. S. M. (2025). Journal of Engineering, Science and Technology at the Crossroads of Science and Education: A Bibliometric Review (2009–2025). *ASEAN Journal of Educational Research and Technology*, *4*(3), 267-294.

Al-Obaidi, A. S. M., Al Husaeni, D. F., Setiyo, M., and Nandiyanto, A. B. D. (2024). The role of mechanical engineering in industry: Review and bibliometric analysis. *Mechanical Engineering for Society and Industry*, *4*(3), 308-317.

Artina, E., Suryadi, K., Masyitoh, I. S., Syaflullah, S., and Amin, M. (2025). Web-based application design on the effect of digitalization on polarization and social integration. *Journal of Engineering Science and Technology*, *20*(3), 57–64.

Belhadi, M.A., Kadja, M., Mechighel, F., Khechekhouche, A., and Hamaiti, Y. (2025). Enhanced thermal performance of parabolic through collectors with TiO_2 nanofluids in an arid climate. *Indonesian Journal of Science and Technology*, *10*(1), 93-112.

Burleson, G., Lajoie, J., Mabey, C., Sours, P., Ventrella, J., Peiffer, E., and Aranda, I. (2023). Advancing sustainable development: emerging factors and futures for the engineering field. *Sustainability*, *15*(10), 7869.

Eksasari, D., Wagino, W., Dwirisnanda, D. A., Abidin, Z., and Penehafo, A. E. (2025). The use of assistive technology applications in improving the learning outcomes of students with hearing disabilities. *Journal of Engineering Science and Technology*, *20*(2), 31–38.

El Mrayej, H., En-Nabety, G., Ettahiri, W., Jghaoui, M., Sabbahi, R., Hammouti, B., Rais, Z. and Taleb, M. (2025). Triazolopyrimidine derivatives: A comprehensive review of their synthesis, reactivity, biological properties, and molecular docking studies. *Indonesian Journal of Science and Technology*, *10*(1), 41-74.

Farokhah, L., Herman, T., Wahyudin, W., Khasanah, L.A.I.U., Zulfadhli, M., Abidin, Z., Huda, M.M., and Ariffiando, N.F. (2025). How to teach fraction for empowering student mathematics literacy: Definition, bibliometric, and application using digital module. *ASEAN Journal of Science and Engineering*, *5*(1), 77-102.

Fiandini, M., Nandiyanto, A. B. D., and Muktiarni, M. (2024). Experimental demonstration for teaching the concept of steam engine power plant to vocational students to support the Sustainable Development Goals (SDGs) and its comparison to Indonesian Merdeka Curriculum. *Journal of Engineering Science and Technology*, *19*(5), 1878–1905.

Fufon, K., Notesiri, U., Lekchaum, K., Chomsuwan, K., Tanitteerapan, T., and Puengsungewan, S. (2025). Smart electric resistance welding based on artificial intelligence (AI) based on real-time adaptive statistical features completed with bibliometric analysis. *ASEAN Journal of Science and Engineering*, *5*(1), 173-198.

Gemil, K.W., Na'ila, D.S., Ardila, N.Z., and Sarahah, Z.U. (2024). The relationship of vocational education skills in agribusiness processing agricultural products in achieving sustainable development goals (SDGs). *ASEAN Journal of Science and Engineering Education*, *4*(2), 181-192.

Hadian, V. A., Suryadi, K., Darmawan, C., Danial, E., and Aulia, S. R. (2025). Web-based platform as a technology to support political participation. *Journal of Engineering Science and Technology*, *20*(3), 161–168.

Harahap, H., Nasution, H., Manurung, R., Yustira, A., and Rashid, A.A. (2025). Development of green polybag innovation products from biomass waste as planting media. *Indonesian Journal of Science and Technology*, *10*(1), 145-158.

Haruna, L.A., Purnama, L.A.M.J., Fristiohady, A., Masrinoul, P., Komaikul, J., Ketsuwan, K., and Asasutjarit, R. (2025). Ganciclovir-loaded chitosan nanoparticles and their activity against HSV-1 inducing herpetic retinitis. *Indonesian Journal of Science and Technology*, *10*(1), 171-190.

Henny, H., Budi, A.H.S., Andriyansyah, M., Ar Rozzak, M.R., Baru, M.M., and Masek, A. (2025). Hazard identification, risk assessment, and determining control (HIRADC) for workplace safety in manufacturing industry: A risk-control framework complete with bibliometric literature review analysis to support sustainable development goals (SDGs). *ASEAN Journal for Science and Engineering in Materials*, *4*(2), 267-284.

Imaniyati, N., Ratnasari, C.D., and Adman, A. (2025). Enhancing job satisfaction through human resource information systems and communication: A commitment-based approach to achieve Sustainable Development Goals (SDGs) in education-oriented organizations. *ASEAN Journal of Educational Research and Technology*, *4*(2), 237-254.

Indra, S., Subagya, A., Dyarini, N., Nandiyanto, A.B.D. (2025). Techno-economic analysis of solar panel production from recycled plastic waste as a sustainable energy source for supporting digital learning in schools based on sustainable development goals (SDGs) and science-technology integration. *Journal of Engineering Science and Technology*, *20*(4), 1149–1158.

Kamanja, R., Wongrerkdee, S., Rungsawang, T., Wongrerkdee, S., Krobthong, S., Pimpang, P., Kaewtrakulchai, N. and Manatura, K. (2025). Activated carbon films from water hyacinth waste for stable and sustainable counter-electrode application in dye-sensitized solar cells. *Indonesian Journal of Science and Technology*, *10*(1), 133-144.

Kochetkov, W.G., Novopolceva, O.M., Burmistrov, V.V., Pitushkin, D.A., Dyachenko, V.S., Bochkaryov, E.S., Kryukova, D.A., and Urzhumov, D.A. (2025). Synthesis and investigation of dithiocarbamate derivatives as polyfunctional ingredients in rubber compounds. *Indonesian Journal of Science and Technology*, *10*(2), 237-248.

Kumar, P. S., and Kirthika, K. (2009). Equilibrium and kinetic study of adsorption of nickel from aqueous solution onto bael tree leaf powder. *Journal of Engineering Science and Technology*, *4*(4), 351–363.

Luo, L., Zhang, J., Wang, H., Chen, M., Jiang, Q., Yang, W., and Guo, H. (2024). Innovations in science, technology, engineering, and policy (iSTEP) for addressing environmental issues towards sustainable development. *The Innovation Geoscience*, *2*(3), 100087.

Makinde, S.O., Ajani, Y.A., and Abdulrahman, M.R. (2024). Smart learning as transformative impact of technology: A paradigm for accomplishing sustainable development goals (SDGs) in education. *Indonesian Journal of Educational Research and Technology*, *4*(3), 213-224.

Memon, F. A., Nuruddin, M. F., Khan, S., Shafiq, N., and Ayub, T. (2013). Effect of sodium hydroxide concentration on fresh properties and compressive strength of self-compacting geopolymer concrete. *Journal of Engineering Science and Technology*, *8*(1), 44–56.

Metteb, Z.W., Ogaili, A.A.F., Mohammed, K.A., Alsayah, A.M., Hamzah, M.N., Al-Sharify, Z.T., Jaber, A.A., and Njim, E.K. (2025). Optimization of hybrid core designs in 3D-printed PLA+ sandwich structures: An experimental, statistical, and computational investigation completed with bibliometric analysis. *Indonesian Journal of Science and Technology*, *10*(2), 207-236.

Moallemi, E. A., Malekpour, S., Hadjikakou, M., Raven, R., Szetey, K., Ningrum, D., and Bryan, B. A. (2020). Achieving the sustainable development goals requires transdisciplinary innovation at the local scale. *One Earth*, *3*(3), 300-313.

Mohammed, M.N., Abdullah, O.I., Jweeg, M.J., Aljibori, H.S.S., Abdullah, T.A., Alawi, N.M., Rasheed, R.T., Meharban, F., Hamzah, H.T., and Al-Obaidi, Q. (2025). Comprehensive review on wastewater treatment using nanoparticles: Synthesis of iron oxide magnetic nanoparticles, publication trends via bibliometric analysis, applications, enhanced support strategies, and future perspectives. *ASEAN Journal of Science and Engineering*, *5*(1), 1-30.

Mohanraj, M., and Chandrasekar, P. (2009). Performance of a forced convection solar drier integrated with gravel as heat storage material for chili drying. *Journal of Engineering Science and Technology*, *4*(3), 305–314.

Moizoro, S., Suryadi, D., Juandi, D., Dasari, D., and Muchlis, E. E. (2025). Integration of GeoGebra and web: An innovative solution for guided discovery learning on triangle congruence material to improve conceptual understanding for prospective mathematics teacher students. *Journal of Engineering Science and Technology*, *20*(3), 25–32.

Morin, S., Suryadi, D., Prabowanto, S., and Sulistiyo, D. (2025). Junior high school students in solving mathematical ill-structured problems: Analyzing using Harel theory. *Journal of Engineering Science and Technology*, *20*(3), 1–8.

Mukhamedov, G.I., Usarov, J.E., Khimmataliev, D.O., Komilov, K.U., Axmadjonov, D.B., Qorayev, S.B., Gayupova, S.K., Rahimov, S.M., and Rajabov, F. (2025). Development of interpolymer complexes for soil structure and water retention: A scientific and technological contribution to Sustainable Development Goals (SDGs). *ASEAN Journal of Science and Engineering*, *5*(2), 315-326

Mukmin, M.N., Sukoharsono, E.G., Rusydi, M.K., Prihatiningtias, Y.W., Nandiyanto, A.B.D. (2025). Techno-economic feasibility of educational board game production from agro-industrial waste in support of sustainable development goals (SDGs) through science and technology integration. *Journal of Engineering Science and Technology*, *20*(4), 1111–1120.

Nandiyanto, A. B. D., Al Husaeni, D. F., and Al Husaeni, D. N. (2023b). Social impact and internationalization of "Indonesian journal of science and technology" the best journal in Indonesia: A bibliometric analysis. *Journal of Advanced Research in Applied Sciences and Engineering Technology*, *32*(2), 42-59.

Nandiyanto, A. B. D., Al Husaeni, D. F., Ragadhita, R., Maryanti, R., and Resa, F. N. (2022). Curcumin inhibitor for iron corrosion isotherm adsorption using C++ program in determining NaCl solution. *Journal of Engineering Science and Technology*, *17*(6), 4117–4129.

Nandiyanto, A. B. D., Al Husaeni, D. N., and Al Husaeni, D. F. (2023a). Introducing ASEAN journal of science and engineering: A bibliometric analysis study. *Journal of Advanced Research in Applied Sciences and Engineering Technology*, *31*(3), 173-190.

Nandiyanto, A. B. D., Al Huseeni, D. N., and Al Huseeni, D. F. (2021). A bibliometric analysis of chemical engineering research using VOSviewer and its correlation with Covid-19 pandemic condition. *Journal of Engineering Science and Technology*, *16*(6), 4414–4422.

Nandiyanto, A. B. D., Piantara, E., Alvani, C., Fathurohman, D., and Ragadhita, R. (2024b). Fabrication of resin-based brake pad from snake fruit peel as sustainable renewable resources to support Sustainable Development Goals (SDGs). *Journal of Engineering Science and Technology*, *19*(5), 2022–2037.

Nandiyanto, A. B. D., Yarfah Alhaqqa, J., Fiandini, M., Ragadhita, R., and Kurniawan, T. (2024a). Silica microparticles with various sizes from bamboo leave waste for ammonia adsorption completed with bibliometric literature review, isotherm adsorption, and proposal adsorption mechanism to support Sustainable Development Goals (SDGs). *Journal of Engineering Science and Technology*, *19*, 59–76.

Nandiyanto, A.B.D., Kurniawan, T., Bilad, M.R., and Farobie, O. (2025). Harnessing biomass for sustainable development goals (SDGs): Definition, bibliometric, application, opportunities, and challenges. *Journal of Engineering Science and Technology*, *20*(4), 1047–1068.

Nur, L., Mushlih, H. Y., Hidayat, T., Wijaya, A., & Malik, A. A. (2025). Development and validation of tactical games learning models based on digital technology. *Journal of Engineering Science and Technology*, *20*(3), 193–200.

Nurdin, E. S., Tanshzil, S. W., Nurbayani, S., Dahliyana, A., & Aulio, S. R. (2025). Screening mobile application based on social ecological model with Pancasila in learning as an effort to prevent radicalism in the digital age. *Journal of Engineering Science and Technology*, *20*(3), 97–104.

Nurhikmayati, I., Darhim, D., Dahlan, J. A., and Prabowanto, S. (2025). Enhancing critical thinking in geometry with GeoGebra: A focus on cubes and cuboids. *Journal of Engineering Science and Technology*, *20*(3), 65–72.

Nurjamin, A., Nurjamin, L.R., Fajriah, Y.N., Nurjamin, A.K., and Nugraha, I. (2025). Developing and evaluating an augmented reality (AR) digital storytelling video to foster multimodal literacy and narrative comprehension. *Journal of Engineering Science and Technology*, *20*(4), 919–956.

Otamukhamedova, G.K., Ziyadullaev, O.E., Salieva, M., Boltayeva, R.A., Faizullaev, R.K., Sayfieva, Y.U.Q., Esanmurodova, N., and Omonova, M.D. (2025). Synthesis and characterization of acetylene alcohols via alkynylation of heteroatomic aldehydes with phenylacetylene under various reaction parameters completed with spatial chemical structure, literature review, and bibliometric analysis. *ASEAN Journal of Science and Engineering*, *5*(1), 61-76.

Oualdi, I., Merzouki, M., Ouahhoud, S., Chakrone, K., Benabbes, R., Yousfi, E.B., Challioui, A., Hammouti, B., and Touzani, R. (2025). Essential oils of artemisia herba-alba, mentha pulegium, and cedrus atlantica: Chemical compositions, in vitro, in vivo, in silico antifungals activities, and genotoxicity. *ASEAN Journal of Science and Engineering*, *5*(1), 45-60.

Paksi, H. P., Akbar, S., Atok, A. R. A., Hosibuan, Z. A., and Penehafo, A. E. (2025). Development of "self-reflection instrument for character detection (Serinteron)" to help students know the strengths and weaknesses of their characters. *Journal of Engineering Science and Technology*, *20*(3), 153–160.

Payung, Z., Kusumah, Y. S., Mulyaning, E. C., and Avip, B. (2025). Enhancing elementary students' mathematical representation skills through VBA-based digital learning media in Microsoft Excel. *Journal of Engineering Science and Technology*, *20*(3), 137–144.

Philip Selvaraj, D., and Chandramohan, P. (2010). Optimization of surface roughness of AISI 304 austenitic stainless steel in dry turning operation using Taguchi design method. *Journal of Engineering Science and Technology*, *5*(3), 293–301.

Prasojo, L.D., Yuliana, L., and Prihandoko, L.A. (2025). Research performance in higher education: A PLS-SEM analysis of research atmosphere, collaboration, funding, competence, and output, especially for science and engineering facilities in Indonesian universities. *ASEAN Journal of Science and Engineering*, *5*(1), 123-144.

Pratiwi, E. Y. R., Susantini, E., Widodo, W., Dwinanto, A., and Suryanti, S. (2025). Digital ecoliteracy learning model: Digital literacy innovations for elementary school students in Indonesia. *Journal of Engineering Science and Technology*, *20*(3), 129–136.

Purnomo, A. M., Monayo, N., Suherman, I., Sihotang, S., and Fanani, M. Z. (2025). Social-economic evaluation of dye processing from Indigofera tinctoria Linn in the Ammatoa Kajang indigenous cultural community. *Journal of Engineering Science and Technology*, *20*(2), 206–213.

Ragadhita, R., and Nandiyanto, A. B. D. (2024). A bibliometric analysis of materials engineering education: Trends and their implications for research and education. *ASEAN Journal of Educational Research and Technology*, *3*(3), 327-344.

Ragadhita, R., Fiandini, M., Al Husaeni, D.N., and Nandiyanto, A.B.D. (2026). Sustainable development goals (SDGs) in engineering education: Definitions, research trends, bibliometric insights, and strategic approaches. *Indonesian Journal of Science and Technology*, *11*(1), 1-26.

Ragadhita, R., Fiandini, M., Nandiyanto, A.B.D., Septiani, E.L., Ogi, T., and Okuyama, K. (2025). Current strategies for mitigating airborne pathogen transmission: An integrative review based on aerosol science and particle technology to support the Sustainable

Development Goals (SDGs), complemented by a bibliometric analysis. *ASEAN Journal of Science and Engineering*, *5*(2), 261-314

Rahadi, M.D., Susanti, R., Wijayanti, Y., Maspiyah, M., Windayani, N.R., and Ibnu, F. (2025). Digital educational media for hospital waste management: addressing waste types, illegal disposal, and environmental impact. *ASEAN Journal of Science and Engineering*, *5*(1), 103-122.

Rahman, M.H.A., Mahmud, J., Jumaidin, R., and Rahman, S.M.A. (2025). Integrated CRITIC-TOPSIS and Monte Carlo sensitivity analysis for optimal various natural fibre selection in sustainable building insulation composites to support the Sustainable Development Goals (SDGs). *ASEAN Journal of Science and Engineering*, *5*(2), 231-260

Rahmat, A., Zahrani, A., Hidayat, H., Arum, F., Respati, S.A., Susanti, W.D., Hariadi, H., and Mutolib, A. (2025). Characteristics of jengkol peel (Pithecellobium jiringa) biochar produced at various pyrolysis temperatures for enhanced agricultural waste management and supporting sustainable development goals (SDGs). *ASEAN Journal of Science and Engineering*, *5*(1), 145-172.

Rasiban, L.M., Putu Gede Ismaya Triwikram, I., Sudjiati, N., and Sugihartono. (2025). Integrating game-based learning and cognitive strategies in Kanji instruction: A case study of 'Kanji Journey' RPG for Japanese JLPT N5 learners. *Journal of Engineering Science and Technology*, *20*(4), 990–1011.

Ruhana, F., Suwartiningsih, S., Mulyandari, E., Handoyo, S., and Afrilia, U. A. (2024). Innovative strategies for achieving sustainable development goals amidst escalating global environmental and social challenges. *International Journal of Science and Society*, *6*(1), 662-677.

Rusdjijati, R., Purnomo, B.C., Rochman, M.L., Pertiwi, F.D., and Setiyo, M. (2025). Integration of water heating systems with car air conditioning systems: A bibliometric analysis, lab-scale investigation, and potential applications. *Indonesian Journal of Science and Technology*, *10*(1), 75-92.

Rusmana, N., Hafina, A., Irawan, T. B. M. I. A., Mulyati, S., and Mashudi, E. A. (2025). Development and validation of an Android application to enhance life skills for junior high school students. *Journal of Engineering Science and Technology*, *20*(3), 185–192.

Saprudin, S., Lutfi, S., Hamid, E., Hayat, M. S., and Gumilar, S. (2025). Utilizing augmented reality media in science laboratory activities: Enhancing students' competence in explaining phenomena scientifically. *Journal of Engineering Science and Technology*, *20*(3), 41–48.

Saputri, V., Kusumah, Y. S., Turmudi, T., and Jupri, A. (2025). Designing a STEM-RME-based mathematics e-module to enhance high school students' numeracy. *Journal of Engineering Science and Technology*, *20*(3), 177–184.

Sari, Y. R. W., Suryadi, K., Rahmat, R., and Nurbayani, S. (2025). Exploring food preferences across generations: Insights from Appsheet data analysis. *Journal of Engineering Science and Technology*, *20*(3), 105–112.

Senthil Kumar, P., and Gayathri, R. (2009). Adsorption of Pb^{2+} ions from aqueous solutions onto bael tree leaf powder: Isotherms, kinetics and thermodynamics study. *Journal of Engineering Science and Technology*, *4*(4), 381–399.

Sesrita, A., Adri, H.T., Suherman, I., Rasmitadila, R., and Fanani, M.Z. (2025). Production of wet organic waste ecoenzymes as an alternative solution for environmental conservation supporting sustainable development goals (SDGs): A techno-economic and bibliometric analysis. *ASEAN Journal for Science and Engineering in Materials*, *4*(2), 245-266.

Sirojuddin, S., Prabowati, R., Jaharudin, J., Hidayat, E. A., and Malawat, S. W. (2025). Integration of ethnobotany and technology in e-module development for animal structure courses. *Journal of Engineering Science and Technology*, *20*(3), 145–152.

Soegoto, H.S., Pohan, M.A.R., Luckyardi, S., Supatmi, S., Amasawa, E., Phithakkitnukoon, S., and Hasibuan, Z.A. (2025). Contributing factors to greenhouse gas emissions in agriculture for supporting sustainable development goals (SDGs): Insights from a systematic literature review completed by computational bibliometric analysis. *ASEAN Journal of Science and Engineering*, *5*(2), 199-230.

Solehuddin, M., Nandiyanto, A. B. D., Muktiarni, M., Rogadhita, R., and Fiandini, M. (2025). Engineering research and scientific contributions at Universitas Pendidikan Indonesia: Trends, challenges, and future directions. *Journal of Engineering Science and Technology*, *20*(3), 816–836.

Susilawati, A., Al-Obaidi, A.S.M., Abduh, A., Irwansyah, F.S., and Nandiyanto, A.B.D. (2025). How to do research methodology: From literature review, bibliometric, step-by-step research stages, to practical examples in science and engineering education. *Indonesian Journal of Science and Technology*, *10*(1), 1-40.

Umam, R., Junaidi, R., Syazali, M., Farid, F., Saregar, A., Andiyan, A., and Takahashi, H. (2025). Optimization of piper trilinier diagram using lithium isotope systematics: An application for detecting the contribution of geothermal water from Aso Caldera after earthquake 2016 in Kumamoto aquifer, Japan. *Indonesian Journal of Science and Technology*, *10*(1), 159-170.

Usman, F., Murakami, K., Wijatmiko, I., Rokman, M., and Nabila, M.A. (2025). Role of coastal vegetation belts in mitigating tsunami waves: Bibliometric analysis, numerical, and spatial analysis. *ASEAN Journal of Science and Engineering*, *5*(1), 31-44.

Vanegas, E., Luna-DelRisco, M., Rocha-Meneses, L., Arrieta, C.E., Sierra, J., and Yepes, H.A. (2025). Chemical looping systems for hydrogen production and their implementation in Aspen Plus software: A review and bibliometric analysis. *Indonesian Journal of Science and Technology*, *10*(2), 249-284.

Waardhani, A.W., Noviyanti, A.R., Kusrini, E., Nugrahaningtyas, K.D., Prasetyo, A.B., Usman, A., Irwansyah, F.S., and Juliandri, J. (2025). A study on sustainable eggshell-derived hydroxyapatite/CMC membranes: Enhancing flexibility and thermal stability for sustainable development goals (SDGs). *Indonesian Journal of Science and Technology*, *10*(2), 191-206.

Wahyuni, N., Usman, T., Ramadhan, M.I., and Astar, I. (2025). H2O2-modified geopolymers as integrated adsorbent-catalysts for FFA removal and biodiesel production from crude palm oil. *Indonesian Journal of Science and Technology*, *10*(1), 113-132.

Wicaksono, V. D., Murtadho, N., Arifin, I., Soegoto, E. S., & Penehafo, A. E. (2025). Development of web platform: A digital solution for school bullying prevention and intervention. *Journal of Engineering Science and Technology*, *20*(3), 113–120.

Wiratomo, G. H., Komalasari, K., Rahmat, R., Masyitoh, I. S., and Nugraheni, E. P. (2025). Design of Appsheet civic dispositions survey (CDS) to understand characters Gen Z students. *Journal of Engineering Science and Technology*, *20*(3), 9–16.

Xing, G., Chano, J., Thadanatthaphak, Y., and Wu, C.C. (2025). Physical adaptation of college students in high-altitude training: Empirical findings and curriculum development insights to support Sustainable Development Goals (SDGs). *ASEAN Journal of Educational Research and Technology*, *4*(2), 215-236.