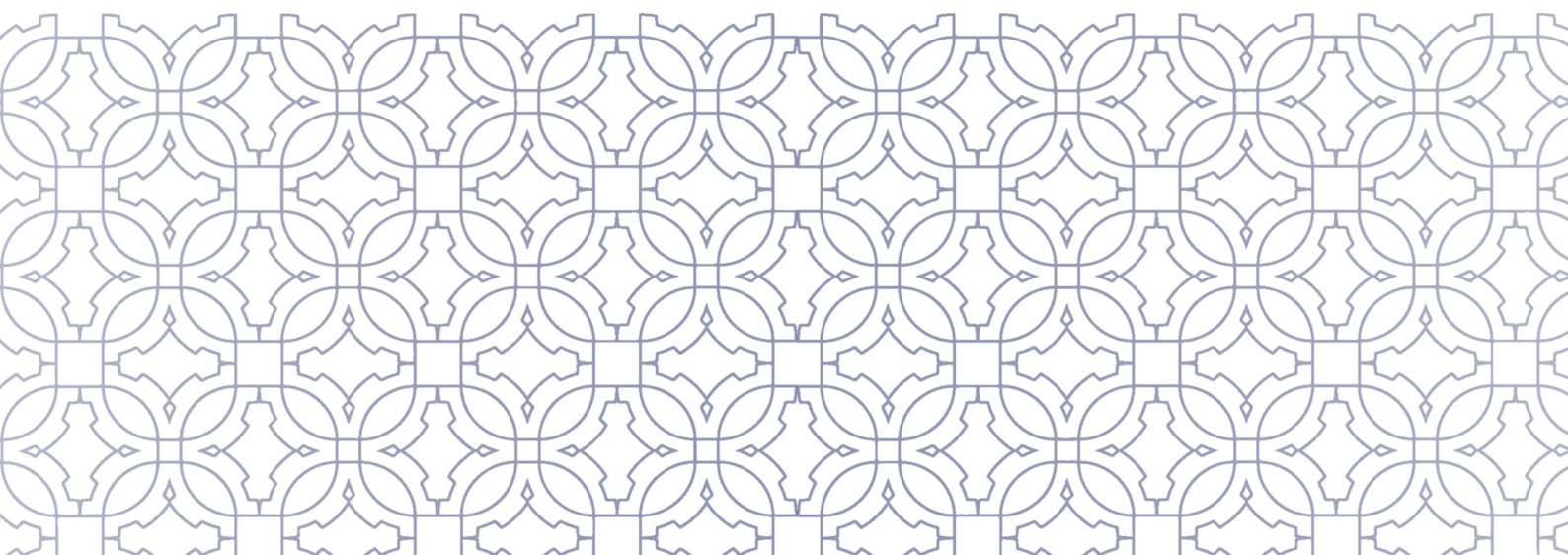


Institut Teknologi Sepuluh Nopember

# Sustainability Report 2024









# Foreword

ITS continues to strengthen its position as one of Indonesia's leading research universities, focusing on science, technology, and innovation that contribute to "Advancing Humanity". Guided by this enduring spirit, ITS systematically aligns its educational framework, research endeavors, and innovation ecosystem with the pursuit of sustainable development and inclusive societal progress.

As a research-based institution, ITS has produced thousands of studies and innovations that contribute to national growth and global sustainability. Through our research and innovation ecosystem, ITS continues to advance multidisciplinary innovations in energy, health, digital technology, and the maritime sector. These initiatives demonstrate ITS' strong commitment to integrating sustainability across all areas of research and development.

ITS' contributions are particularly significant in SDG 1 (No Poverty), SDG 7 (Affordable and Clean Energy), and SDG 9 (Industry, Innovation, and Infrastructure). The continuous growth in research output, scholarly citations, and institutional collaborations in these areas demonstrates our steadfast dedication to developing technologies that enhance healthcare systems, promote renewable energy transitions, and strengthen innovation capacity across industries.

ITS believes technological advancement must be inseparable from human development. Strategic collaboration with industries, governments, and international partners remains fundamental in realizing this vision. Supported by our academic community and global network, ITS continues its journey toward becoming an Entrepreneurial University by 2030, where research excellence creates real impact, opportunities, and solutions for a sustainable future.

This report highlights our shared achievements while inviting wider collaboration, so that together we can drive progress in science and innovation with a strong sense of responsibility toward humanity.

**Prof. Dr. (HC). Ir. Bambang Pramujati,  
S.T., M.Sc.Eng., Ph.D., IPU, ASEAN Eng.**

Rector of ITS

# Executive Board

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**Salsabila Arini Kusuma**  
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**Alief Hanantyo Wibowo**  
Designer of ITS Public Relations Unit

**Fildzah Amalia Putri Herdina**  
Data Analyst of the Sustainable Development Goals and Smart Eco Campus Unit



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# 1 NO POVERTY

**24,277** Number of Students

**20,657** Number of Low Income Students Receiving Financial Aid

## Research



### Empowering Coastal Communities through Solar-Powered Freezing Systems

The Electrical Engineering Department at ITS implemented a 600-watt photovoltaic system and a solar-powered freezer for fishermen in Bringsang Village, Sumenep. This sustainable solution allows fish preservation without costly diesel generators. ITS also trained locals in system operation and maintenance. The initiative aims to reduce costs, strengthen economic resilience, and alleviate poverty in the coastal community.

## Outreach

### ITS Community Service Program Promotes Digitalization for MSMEs

The ITS KKN-Abmas team promoted digital transformation for MSMEs with a focus on the food and beverage sector through community outreach.

The team provided hands-on training to "Berbagi Rasa" on integrating with online delivery platforms like GoFood and GrabFood, covering account setup, menu digitization, pricing, and digital marketing. This initiative enhanced operational efficiency, reduced costs, and increased online sales, contributing to sustainable economic growth and innovation, with continuous monitoring ensuring long-term impact.

### Empowering Communities Through Knowledge

ITS delivered a targeted outreach program focused on sustainable economic practices for Islamic boarding school cooperatives. The training emphasized financial literacy, cooperative governance, and environmentally responsible business strategies, equipping participants with practical tools to strengthen their operations. By fostering economic independence and creating opportunities for income generation, this initiative directly supports poverty reduction and empowers local communities.





## Stewardship



### ITS Welcomes 1,075 KIP-K and ADIK Scholars

Institut Teknologi Sepuluh Nopember (ITS) organized the "Ignite Your Journey" welcoming event for 1,075 KIP-K and ADIK scholarship recipients. Held at the ITS Robotics Center on December 1, 2024, the event provided tailored orientation and motivational sessions for students from financially challenged backgrounds and remote regions, ensuring equitable access to higher education. Beyond financial aid, ITS enhances their academic journey with free global competence training, including workshops and international project-based learning, to boost their readiness for global engagement. This comprehensive approach promotes equal access to essential services and actively reduces educational barriers, breaking poverty cycles and empowering students for socio-economic upliftment.

### Tuition Relief Program to Reduce Student Poverty

As part of its commitment to advancing inclusive and equitable quality education, ITS has implemented a tuition relief program (keringanan UKT/SPP) for the Odd Semester of the 2024 academic year. This initiative is designed to support undergraduate and applied science students who are experiencing financial hardship, ensuring that economic barriers do not hinder their access to higher education. The program enables eligible students to apply for a reduction in tuition fees by submitting verified documentation that reflects their financial condition, such as income statements or official letters from relevant authorities. This program reflects ITS' strategic alignment with national and global development priorities by promoting social equity.

## Teaching

### Advancing MSME Welfare Through Business Digitalization: The Initiative of ITS Student Cooperative

Kopma dr. Angka ITS hosted an educational seminar for its 42nd anniversary to advance MSMEs through comprehensive digitalization. Experts emphasized that digital transformation requires strategic integration across marketing, finance, operations, and HR—not just online selling—to enhance efficiency and global competitiveness. The event used interactive learning, including expert presentations, case studies, and Q&A sessions, to help participants analyze challenges. Attendees gained conceptual understanding and practical insights for sustainable digital transformation.

### ITS Mechanical Engineering Department Offers Welding Training for Students and Local Communities

The Mechanical Engineering Department at Institut Teknologi Sepuluh Nopember (ITS) organized a hands-on welding training program for vocational students and local community members, including those affected by layoffs. Conducted over two days, the program combined theoretical instruction with practical exercises on electric arc welding techniques, such as electrode selection, arc initiation, and parameter adjustment. Participants successfully applied these skills to create functional products like shoe racks, fostering both technical competence and entrepreneurial potential. This initiative not only strengthened workforce readiness but also empowered the community to generate additional income and improve economic resilience.





## 2 ZERO HUNGER

**55 ton** Total Food Waste

**2,878** Number of Campus Population

### Stewardship



#### Halal, Safe, and Sustainable Food Management at ITS Canteen

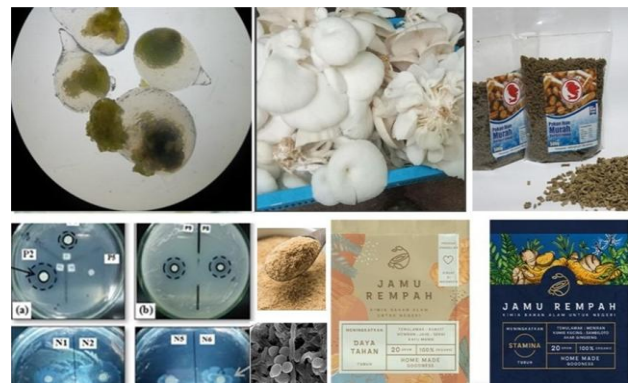
The ITS Central Canteen was selected as one of Indonesia's Halal, Safe, and Healthy Culinary Zones (Zona KHAS), reflecting the university's commitment to sustainable and responsible food management. ITS established the Standard Operating Procedure for Central Canteen Management, supported by the Rector's Circular Letter on reducing single use plastics and the Rector's Statement of Commitment to the SDGs.

These regulations require all canteen tenants to minimize plastic use, ensure Halal certification and business legality, and source products from suppliers with sustainable and halal-certified packaging standards.

### Research

#### Agrifood and Biotechnology Research Center (Agrifotech ITS)

ITS strengthens its contribution to Zero Hunger through the Agrifood and Biotechnology Research Center (Agrifotech), which focuses on developing innovative solutions for food and agricultural sustainability.



In 2024, research initiatives include in vitro propagation of Indonesian stevia, porang plant breeding for national food resilience, biofertilizer and biopesticide development, solar-powered agricultural machinery, IoT-based soil monitoring, and aquaponic systems for community food independence, among others.



## Teaching

### Food Security and Sustainability in the Food Engineering Curriculum

The Food Engineering Undergraduate Program at ITS integrates the principles of Zero Hunger into its curriculum and learning outcomes. The program focuses on developing student competencies in food safety, sustainable food processing, and national food resilience. Through its educational goals, the program prepares graduates to transform biological and non-biological raw materials into high-value food products that strengthen food security and sustainability.



### International Guest Lecture on Food Safety and Analytical Chemistry

To enhance students' global exposure and understanding of food security, the Food Engineering Department organized an international guest lecture titled "The Application of Analytical Chemistry in Analysis" in collaboration with Universiti Teknologi MARA (UiTM), Malaysia.

The lecture introduced the application of analytical chemistry and advanced instruments such as gas chromatography and HPLC in ensuring food safety and product quality. Delivered entirely in English, the session not only deepened students' scientific understanding but also built confidence, critical thinking, and international communication skills.

## Outreach



### Food Security and Sustainability in the Food Engineering Curriculum

In line with its slogan "Advancing Humanity," ITS demonstrates a strong commitment to food security and sustainable agriculture through community outreach programs. Through the Directorate of Research and Community Service, ITS distributed various crop and fruit seeds to farmer groups across seven regions in Indonesia, including rice seeds in Karanganyar and Bondowoso, citrus and durian seedlings in Semarang and Magelang, and corn seeds in Banjarnegara. Communities in Jember and Surabaya also received ornamental plants to enhance local green spaces.



### Agricultural Technology and Smart Farming

ITS students actively contribute to rural food resilience through KKN Abmas programs by introducing smart farming technologies, including a solar-powered coffee bean sorter in Malang, an automatic pest repellent in Nganjuk, and IoT-based soil monitoring and irrigation systems in Magelang. These innovations enhance agricultural productivity, reduce operational costs, and promote sustainable farming practices.



# 3 GOOD HEALTH AND WELL-BEING



## Outreach

### Blood Donation Drive to Strengthen Community Health and Well-Being

Saving lives starts with accessible health initiatives, and a blood donation program was organized to provide safe blood supplies for medical needs. The activity included health checks for donors, counseling on the importance of regular blood donation, and collaboration with medical professionals to ensure proper procedures. This effort not only supports emergency healthcare but also promotes a culture of preventive health within the community, contributing to improved well-being and resilience.

### Polio Immunization Initiative for Children Led by ITS

ITS participated in Surabaya's Sub-National Immunization Week for polio by engaging faculty and students from the Faculty of Medicine and Health. The program involved assisting healthcare professionals in administering free polio vaccines to children at local clinics and public areas, as well as educating parents about the importance of immunization.



ITS also provided opportunities for medical students to gain practical experience under the supervision of the Surabaya Health Agency. This effort contributed to Surabaya achieving one of the highest immunization coverage rates in East Java and earned ITS recognition for its role in supporting child health through preventive measures.

### ITS Health Faculty Educates Community on Antibiotic Resistance

ITS' Faculty of Medicine and Health conducted a health education program in rural areas about antibiotic resistance. The program featured interactive counseling for residents on the dangers of antibiotic misuse, proper medication practices, and preventive health. Medical students and faculty collaborated with local health workers to deliver accurate information and encourage responsible antibiotic use, aiming to reduce health risks and strengthen community resilience against infectious diseases.

### Healthy Home Renovation for Tuberculosis Patients as Part of ITS Community Outreach

A program was implemented to renovate homes of tuberculosis patients to meet healthy living standards, focusing on improving ventilation, sanitation facilities, and natural lighting to support recovery and reduce infection risk. The initiative involved collaboration between the Faculty of Medicine and Health of ITS, local health authorities, and community members to create safer environments for patients and their families, contributing to better health outcomes and minimizing disease transmission.



## Stewardship

### Promoting Emotional Intelligence for Staff Health: A Stewardship Initiative at ITS

ITS carried out a community outreach program aimed at enhancing emotional intelligence among children. The activity included interactive sessions where children were guided to recognize and express emotions appropriately, practice empathy, and develop basic stress management techniques through games and storytelling. Psychologists and facilitators provided practical exercises to strengthen self-awareness and social interaction skills, ensuring that emotional development is nurtured in a supportive environment. This initiative reflects ITS' commitment to fostering mental well-being and resilience in younger generations through educational engagement."

## Teaching



### First Aid Training to Strengthen Emergency Health Preparedness

Building capacity to save lives starts with knowledge, and a comprehensive first aid training was conducted to equip participants with essential emergency response skills. The program included hands-on practice in CPR, wound care, and management of common injuries, guided by certified instructors to ensure accuracy and safety. This initiative enhances readiness to handle health emergencies effectively, reducing preventable risks and promoting well-being in both workplace and community settings.

## Research

### AI Innovation for Therapy and Learning of Children with Disabilities

ITS introduced an AI-based solution to assist therapy and learning for children with disabilities. Its interactive features support speech therapy, cognitive development, and personalized, adaptive educational modules. This technology provides accessible tools for educators and therapists to improve communication skills and developmental progress, contributing to better health and educational outcomes for children with special needs.

### Innovative Toileting Wheelchair and Artificial Hand by ITS

ITS developed two assistive technologies for children with disabilities: a toileting wheelchair with ergonomic and hygiene features, and an adaptive artificial hand to aid daily activities. Both innovations aim to improve health, independence, and functional capability. These solutions were implemented through community engagement to ensure accessibility and practical benefits.

### Application Development for Monitoring Chronic Kidney Disease

A mobile application was developed to monitor individuals with chronic kidney disease, integrating health data tracking, medication reminders, and real-time communication with healthcare providers. This app, created through collaboration between academic and medical experts, ensures continuous care, improves treatment adherence, and enables early detection of complications, ultimately supporting better health outcomes for patients.





# 4 QUALITY EDUCATION



5,765

Number of Students  
Starting a Degree

2,880

Number of First-Generation  
Students Starting a Degree

50%

Proportion of First-  
Generation Students

## Teaching



### ITS–Boeing Partnership Enhances Teaching Innovation through Industry Collaboration

ITS signed a MoU with Boeing Indonesia on 19 September 2024, to strengthen industry-linked teaching and learning in the field of aviation. Initiated at the Higher Education Partnership Initiative (HEPI) Forum, this collaboration aims to integrate real-world industry expertise into the classroom.

Through this partnership, ITS and Boeing Indonesia launched the Global Industrial Talk program, an eight-series guest lecture delivered by Boeing professionals covering topics such as aviation production, communication, human resources, and testing. This program provides students with firsthand insights into global industry practices, enriching academic learning with practical applications.

In addition to guest lectures, the collaboration includes scholarship opportunities, industrial internships, and joint research in aerospace sustainability. These initiatives ensure that ITS students gain theoretical understanding and develop skills relevant to the aviation industry.

## Outreach

### Welding Training Program Empowers Students and Communities through Practical Skills Development

The Department of Mechanical Engineering organized a two-day Welding Training Workshop to strengthen technical competencies and promote inclusive access to lifelong learning. The program aimed to help students and local communities recover from the lingering socio-economic impacts of the COVID-19 pandemic by developing practical and entrepreneurial skills.





Led by Prof. Suhardjono, the workshop introduced participants to both theoretical and practical aspects of electric welding. Participants learned to produce functional and marketable products, such as metal shoe racks, designed to combine utility and income-generating potential.

The training brought together participants from various backgrounds, including vocational high school students, staff from UNESA, and entrepreneurs affected by layoffs. Conducted at the ITS Manufacturing Process Lab, the sessions covered essential welding techniques, from electrode selection and arc ignition to parameter adjustment and finishing processes.

### Empowering Underprivileged Children through Self-Development Education



In December 2024, BIMITS Mengajar 2024 program launched a targeted outreach initiative for children from underprivileged backgrounds, providing them with creative self-development and public-speaking training to boost confidence and personal potential. The program spanned three weeks, engaging youth in mixed communities around ITS through interactive learning and talent-show events at ITS' postgraduate building.

By combining academic, religious, and creative teaching methods, the initiative enabled participants to recognise their strengths, express themselves publicly, and develop their self-belief.

ITS views the program as a meaningful contribution toward inclusive, lifelong learning and aligns with Quality Education, as it expands access to educational opportunities beyond traditional pupils and supports equity through skill and character development.

### Free Online Courses through myITS Learning

The myITS Learning platform offers hundreds of free online courses and certifications across diverse categories. Since 2020, more than 300 learning videos have been developed and are continuously managed on [learning.its.ac.id](https://learning.its.ac.id).

## Stewardship

### Policy Foundations for Inclusive and Lifelong Learning at ITS

ITS demonstrates strong institutional stewardship in advancing inclusive and lifelong learning through policy frameworks that ensure fairness, accessibility, and good governance.

The Regulation of the Academic Senate No. 6 (2017) remains a key foundation for ITS' inclusive education system. It mandates lifelong learning opportunities for all, regardless of ethnicity, religion, gender, disability, or immigration status, through public lectures, community training, and scholarship programs. This regulation continues to guide ITS' strategies in expanding equitable access to education beyond the university community.

Building on this foundation, the Rector Circular Letter on ITS' Commitment as a Green and Sustainable Campus (2024) integrates sustainability with social inclusion and welfare. It reinforces equality and non-discrimination in all aspects of campus life, while ensuring scholarship support and disability-friendly facilities for diverse learners.



# 5 GENDER EQUALITY

1,288

Number of First Generation  
Women Starting A Degree

81.24%

Proportion of  
Women Receiving  
Degrees

197

Number of Female  
Senior Academic Staff

## Stewardship

### Strengthening Gender Equality through Inclusive Institutional Governance

ITS demonstrates a strong institutional commitment to gender equality as governed by the Government Regulation on ITS Status, Article 18 (2), and reinforced by the Rector's Circular Letter, which guarantees non-discriminatory and gender inclusive practices in both student recruitment and human resource management.

Gender-responsive employment is also supported by the Rector's Regulation No. 25 of 2021, which provides three months of fully paid maternity leave for eligible staff and establishes clear procedures to ensure women's participation in the workforce.



To further promote equality and welfare, ITS operates the KB & TK Sepuluh Nopember as a childcare facility for staff and faculty, enabling a healthy balance between family and professional responsibilities.

In addition, protection against gender based discrimination is upheld through the Whistle Blowing System (WBS) regulated under Rector's Decree No. 585/IT2/T/HK.00.01/2022 and No. 103/IT2/T/HK.00.01/VI/2025, which ensures confidentiality and safety for reporters.

## Research



### Inclusive Collaborative Research to Empower Women Scientists

In 2024, ITS hosted the Symposium on Inclusive Collaborative Research at the GRIT Research Center, launching the OWSD Inclusive Collaborative Research (OWSD-ICR) Program in collaboration with the Organization for Women in Science for the Developing World (OWSD) Indonesia and five partner universities, Universitas Brawijaya, Universitas Hasanuddin, Universitas Padjadjaran, and Universitas Lambung Mangkurat. This initiative aims to enhance women's participation in research, promote diversity in science, and foster inclusive knowledge exchange across institutions.



## First in Indonesia: ITS Female Lecturer Wins Dr Willmar Schwabe Award



Sri Fatmawati, a lecturer from the Department of Chemistry at ITS, became the first Indonesian woman to receive the prestigious Dr Willmar Schwabe Award 2024 in Poland, presented by the Society for Medicinal Plant and Natural Product Research (GA). Her research explores the pharmacological potential of Indonesian herbal plants and innovations in natural product chemistry, contributing to scientific advancement and the sustainable development of traditional medicine.

Through this milestone, ITS strengthens inclusive research practices that enhance evidence-based innovation and promote women's leadership in science. Dr. Fatmawati's work empowers local farmers and women researchers by linking scientific discovery with community based applications, demonstrating how research excellence can drive social impact and sustainability.

## Teaching

### Strengthening Women's Roles in Technology through Inclusive Learning

To strengthen women's roles in the digital era, ITS students established ITS Nabu, a platform focusing on cybersecurity projects, and organized the Women in Cyber Security: Cyber Security Training Session at the Department of Informatics Engineering.

This initiative, in collaboration with the Networking Technologies and Intelligent Cyber Security (Netics) and Net-Centric Computing (NCC) laboratories, was designed as a capacity-building program to encourage greater participation of women in cybersecurity.



The training featured experts such as Dyah Putri Nareswari from PwC and Elshe Ervianna Angely from Netics, who shared insights on cybersecurity and cloud technology, inspiring participants to explore diverse roles in the IT industry. The activity not only provided technical knowledge but also raised awareness of the importance of women's inclusion and leadership in the digital sector.

## Outreach



Tiara Maissie Brilliana Pasa, a student from the Department of Mechanical Engineering, represented ITS and Indonesia at the United Nations Youth Assembly in New York, in collaboration with the AFS Intercultural Program, an international youth organization dedicated to social inclusion and community development.

During the event, Tiara highlighted gender inequality and educational barriers faced by rural women. Through this global engagement, ITS expanded its outreach by partnering internationally to promote inclusive education and gender equity awareness.



# 6 CLEAN WATER AND SANITATION

28,788

Campus Populations

207,274 m3

Volume of Water Used

## Stewardship

### Comprehensive Water and Sanitation Management Policy

ITS demonstrates a strong commitment to sustainable water and sanitation management, guided by Rector's Circular Letter on Green and Sustainable Campus Development. The policy regulates water efficiency, wastewater treatment, and pollution prevention across all university facilities. ITS systematically measures total water consumption through the PDAM Surya Sembada supply system, enabling continuous monitoring and improvement of water use efficiency.

To ensure responsible water usage and care, ITS ensures responsible water use through an on campus wastewater treatment plant that processes domestic and laboratory wastewater, reusing up to 30% for irrigation and toilet flushing. Comprehensive SOPs for liquid and hazardous waste management cover maintenance, emergency response, and monitoring to prevent water pollution. Free drinking water points and water efficient building standards, such as rainwater harvesting, greywater reuse, and sustainable landscaping further promote campus wide water stewardship.

## Teaching



### Strengthening Water and Sanitation Education through Laboratory Based Learning

ITS integrates the principles of clean water and sanitation into its academic curriculum across various departments. The Environmental Quality Management Laboratory under the Department of Environmental Engineering focuses on the management and engineering of clean water, wastewater, rainwater, air, and emissions. Through practical experiments, students learn to analyze water quality, design water treatment systems, and develop sustainable environmental solutions.

Meanwhile, the Water Resources and Coastal Engineering Laboratory under the Department of Civil Engineering enhances



teaching and research in river engineering, irrigation, drainage, groundwater, water resource management, hydraulic engineering, and hydrology. These laboratory activities equip students with technical and analytical skills to manage and conserve water resources effectively, aligning with ITS' commitment to sustainable water management.



### Guest Lecture on Water Treatment Technology Enhances Students' Technical Insight

The Department of Chemical Engineering conducted a guest lecture presented by Mr. Hery Wibowo from PT Ecolab International Indonesia, entitled "Basic Concepts of Water Treatment Technology Based on Its Application." Attended by 60 students, the lecture explored the importance of water, types of water impurities, and appropriate water treatment processes. This session strengthened students' understanding of clean water management and the technological innovations essential for ensuring access to safe and sustainable water resources.

## Research

### Advancing Sustainable Water Management through Research and Technological Innovation

The Directorate of Research and Community Service at ITS encourages lecturers and students to conduct research on clean water and sanitation.

One example is the dissemination of the Kurita Overseas Research Grant 2024, which supports young researchers and doctoral students in advancing Water-Related Environmental Science and Technology, including wastewater treatment, sustainable sanitation, and aquatic ecosystem management.

In 2024, ITS researchers also contributed through various studies, including those conducted by the Laboratory of Water and Coastal Resources Engineering on rainwater harvesting, 3D city flood modeling, water allocation optimization, and watershed management, driving innovation in sustainable water and disaster management.

## Outreach



### Empowering Local Communities through Water Management Training

ITS provides free educational opportunities for local communities to learn about effective water management. The Community Service team from the Environmental Remediation Laboratory conducted education and training on wastewater management for coastal residents of Kutorejo Village, Tuban Regency, on September 4, 2024. The program aimed to prevent wastewater from being discharged directly into the sea and degrading environmental quality. The community was introduced to proper wastewater management practices through the use of wastewater treatment plants.



# 7 AFFORDABLE AND CLEAN ENERGY

**333.905 kwh**

Total renewable energy made

**55,163 GJ**

Total energy used

**373,577**

University Floor Space

## Stewardship

### MASTER PLAN

KEY PLAN



### ITS Builds REIDI Project, the Largest Living Laboratory in Indonesia

By initiating the Renewable Energy Integration Demonstrator of Indonesia (REIDI), ITS is actively advancing SDG 7, which promotes access to affordable, reliable, sustainable, and modern energy. ITS provides the land and leads the development of this 1.5-hectare living lab, integrating solar panels, agrovoltatics, biomass, hydrogen fuel cells, and smart grid systems. This initiative not only powers campus operations with renewable sources but also serves as a training and research hub for industry and academia. Through REIDI, ITS demonstrates environmental stewardship by fostering innovation, education, and infrastructure that support Indonesia's transition to clean energy.

## Teaching



### Advancing Marine Energy Guidelines

ITS demonstrates its academic stewardship by hosting an external Focus Group Discussion (FGD) in collaboration with PT PLN (Persero), aimed at shaping national guidelines for marine energy development. This initiative targets the academic community and energy stakeholders, fostering interdisciplinary dialogue and policy alignment. By involving experts from universities, government agencies, and industry, ITS positions itself as a catalyst for sustainable energy innovation and knowledge integration. The FGD supports ITS' commitment to environmental responsibility and capacity-building, ensuring that academic insights contribute meaningfully to Indonesia's renewable energy roadmap.



## Outreach



### Empowering Fishermen with Renewables

To enhance community welfare, ITS initiated an outreach program for coastal fishing communities in Pangkah Wetan Village, Gresik, deploying solar-powered ice flake machines for post-harvest fish preservation and economic resilience. This effort, part of ITS' commitment to sustainable development, involves collaboration with the Gresik government and Kemendikbudristek. The partnership transfers technological innovation and fosters inclusive development by directly engaging and benefiting local fishermen.

### ITS KKN Abmas 2024: FT-EIC Brings Agricultural Tech to Villages

ITS KKN Abmas agricultural technology initiative emphasized active community engagement and education to ensure long-term impact. In both Jambuwer and Ngronggot villages, the student team conducted socialization sessions to introduce the solar-powered coffee bean sorter and automatic pest repellent devices, explaining their functions and benefits in accessible terms. These sessions also promoted awareness of renewable energy, particularly solar power, as a viable solution for rural farming challenges. The team collaborated closely with residents throughout the process—from site surveys to installation—fostering trust and ownership. This hands-on approach empowered farmers to adopt and maintain the technologies independently, reinforcing the program's commitment to sustainable development through inclusive outreach.

## Research



### ITS students developed eco-friendly biobriquettes from cow dung to support clean energy and waste reduction

The core innovation of the ITS KKN Abmas initiative lies in its development of biobriquettes made from cow dung and biogas residue, offering a sustainable energy alternative for local industries. By integrating waste from tempe chip production and cattle farming, the team engineered a low-cost, high-efficiency fuel source that emits minimal smoke and delivers prolonged heat output. The process involves drying, carbonizing, and grinding cow dung into fine powder, then binding it with tapioca flour and water to form compact briquettes. This inventive approach not only addresses waste management challenges but also supports Indonesia's clean energy goals by empowering communities with practical, eco-friendly technology.

### ITS Officially Launches EVITS, a High-Quality Flagship Electric Motorcycle

ITS has officially launched EVITS, a high-quality electric motorcycle developed to meet national standards. This innovative vehicle features a lithium battery, smart dashboard, and regenerative braking system, showcasing ITS' engineering excellence. By promoting electric mobility, ITS contributes to reducing carbon emissions and advancing sustainable transportation. Through EVITS, ITS reinforces its commitment to SDG 7 by supporting clean energy solutions in the automotive sector.



# 8 DECENT WORK AND ECONOMIC GROWTH

4,512

Number of  
Employees

100%

Proportion of employees  
on secure contracts

8,740

Number of students with  
work placements

## Stewardship



### ITS Declaration Against Slavery and Discrimination in Employment

ITS is committed to maintaining a workplace free from slavery, exploitation, and discrimination, ensuring that all employees, regardless of gender, age, religion, or background, are treated with dignity and fairness. Through the ITS Declaration on Employment Stewardship and Decent Work, the university reinforces its responsibility to promote ethical, inclusive, and equitable employment practices.

ITS upholds zero tolerance for modern slavery, ensures fair recruitment and equal pay, and provides safe and respectful working conditions. The university has implemented key employment policies covering non-discrimination, modern slavery prevention, pay-scale equity and gender pay tracking, living wage, equivalent rights for outsourced workers, employee appeal mechanisms, and labour rights recognition for all staff.

## Outreach



### Boat Repair and Occupational Safety Training in Gisik Cemandi Village

Department of Naval Architecture conducted a community outreach program in Gisik Cemandi Village on 19 November 2024. The activity involved around 30 local fishermen and focused on improving their technical skills in fiber boat repair while raising awareness of occupational safety practices in their daily work.

The training introduced participants to the proper handling of fiber-reinforced plastic materials, safe repair techniques, and the responsible use of chemical substances and protective equipment. By equipping fishermen with these practical skills, the program helped them repair their boats independently, reduce maintenance costs, and increase productivity while ensuring safer working conditions.



This initiative also reflects ITS' strong commitment to community empowerment and decent work by integrating technical skill development with safety education,



### Strengthening Coastal MSMEs Branding for Inclusive Economic Growth in Sontok Sea Tourism Village

Empowering coastal communities plays a vital role in achieving inclusive and sustainable economic growth. This vision was brought by the Community Service Program team from the Department of Development Studies, through a branding and digital marketing training for local micro, small, and medium enterprises (MSMEs) in Sontok Sea Tourism Village, Surabaya.

The program addressed the limited knowledge of product branding and packaging among coastal entrepreneurs. The training covered topics such as product visualization, market segmentation, tagline creation, and attractive packaging design. Participants also learned how to promote their products through e-commerce platforms and social media.

ITS team provided personalized consultations and developed promotional materials. This initiative strengthens the local economy by improving the competitiveness of MSMEs, reflecting ITS' commitment to promoting inclusive and sustainable economic growth in coastal communities.

## Teaching



### Empowering ITS Lecturers through Capacity Building Workshops

To strengthen teaching quality and academic excellence, ITS continues to invest in the professional development of its lecturers. ITS launched the Series of Capacity Building for ITS Young Lecturers in 2024, a program designed to enhance pedagogical competence through international collaboration.

In January 2024, two flagship workshops were held in partnership with Singapore Management University (SMU) and the Singapore University of Social Sciences (SUSS). The first, Workshop on Experiential Learning, guided participants in applying student-centered learning approaches, while the second, Workshop on Case Study Writing, equipped lecturers with tools to design impactful case-based learning materials. Both sessions were open to all ITS lecturers.

Through these initiatives, ITS reinforces its commitment to SDG 8 by promoting continuous professional learning, equitable access to capacity-building opportunities, and sustainable academic career development.

**“Through education, empowerment, and innovation, ITS advances inclusive and sustainable economic growth.”**



# 9 INDUSTRY, INNOVATION AND INFRASTRUCTURE

115

Number of  
University  
Scientists

3,295

Number of  
Faculty Staff

## Research

### ITS' Collaboration on Palm Oil Industry Development

ITS expanded research collaboration with NGOs and government-linked organizations through the Palm Oil Research Grant Program (GRS), supported by BDPKPS. ITS was awarded approximately Rp 10 billion to support six different research titles aimed at innovation, productivity, efficiency, and sustainability within the palm oil industry. The grant process involved initial calls for proposals in early 2024, followed by socialization and intensive proposal coaching clinics hosted by the Directorate of Research and Community Service, culminating in the final funding announcement in mid-2024.



## Stewardship

### ITS' REIDI, the largest living lab in Indonesia

Research and Innovation Ecosystem for Sustainable Development (REIDI) ITS serves as a dynamic platform that integrates education, research, innovation, and community engagement within a real-world context. Spearheaded by ITS, REIDI brings together diverse stakeholders—universities, industries, government, and society—to co-create and test sustainable solutions aligned with SDGs. The initiative transforms the ITS campus and its surrounding areas into an open laboratory for sustainable mobility, renewable energy, waste management, smart infrastructure, and social innovation.





By bridging scientific research with practical application, REIDI not only accelerates Indonesia's transition toward sustainability but also strengthens ITS role as a national leader in innovation-driven development.

## ITS Startup Development Programs

### ITS Youth Technopreneur (IYT)

IYT is a flagship program designed to cultivate entrepreneurial spirit and innovation among students. The program provides a structured pathway for young innovators to transform creative ideas into technology-based business ventures through mentoring, workshops, prototype development, and business incubation. IYT emphasizes practical experience and collaboration, encouraging students from diverse disciplines to address real-world challenges through sustainable and market-oriented solutions. Supported by the ITS Center for Creative Innovation and Entrepreneurship (CIIE), the program has produced promising startups and innovators who contribute to Indonesia's growing digital and green economy.



Through IYT, ITS reinforces its commitment to nurturing the next generation of technopreneurs who embody creativity, resilience, and social responsibility.

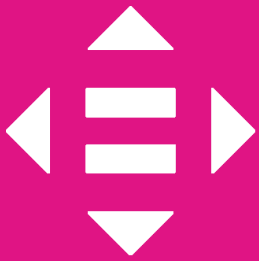
### HETI Student Youngpreneurship

HETI Student Youngpreneurship is an entrepreneurial development initiative under the Hub of Entrepreneurial and Technological Innovation (HETI) at Institut Teknologi Sepuluh Nopember (ITS). The program aims to empower students with the knowledge, skills, and mindset needed to become innovative and socially responsible entrepreneurs.

Through a combination of training, mentorship, business plan development, and pitching opportunities, HETI Student Youngpreneurship provides a platform for students to transform ideas into impactful business ventures. The program also fosters collaboration across disciplines, encouraging participants to design technology-based solutions that address societal and environmental challenges. By nurturing entrepreneurial leadership among students



This ecosystem has successfully produced numerous technology-based startups in sectors such as energy, marine, transportation, and digital solutions, reinforcing ITS commitment to translating research and creativity into sustainable entrepreneurial ventures that contribute to Indonesia's innovation-driven economy.



# 10 REDUCED INEQUALITIES

977

Number of Int'l Students  
from Developing Countries

2,880

Number of First Generation  
Students Starting a Degree

50%

Proportion of First  
Generation Students

## Outreach



### ITS Develops Sensor-Based Mosque to Promote Accessibility and Inclusion

The Community Service team from the Department of Architecture at ITS developed a sensor-based mosque prototype for the visually impaired at the Yayasan Pendidikan Anak-Anak Buta (YPAB) in Surabaya. The initiative aims to improve accessibility and comfort in worship spaces for individuals with visual disabilities, where existing facilities remain limited. The design allows users to interpret spatial information through sensory cues, featuring two key elements: guiding tiles to assist users in navigating from the entrance to the prayer area, and handrails installed along pathways and walls to provide tactile orientation support. Scheduled for inauguration in October 2024, this project serves as a model for disability-friendly religious facilities, reflecting ITS' commitment to reducing inequalities and promoting accessible design in public spaces.

## Research



### ITS Students Develop Neutrack AI Glove to Empower Visually Impaired and Alzheimer's Patients

The Memory Reboot Team from Department of Informatics developed the Neutrack AI Glove, an assistive device integrating AI and computer vision to support visually impaired and Alzheimer's patients. The glove interprets visual surroundings into audio cues and voice guidance, enabling users to navigate safely and recognize familiar faces.

Tested at YPAB Surabaya, the Neutrack AI Glove demonstrated its ability to enhance independence and safety for users. Its innovative use of sensors, voice commands, and facial recognition earned them first place at Hackfest Indonesia 2024. The device later refined using recycled materials for the Google Solution Challenge 2024, highlighting its sustainable and inclusive design.



## ITS Wins IEEE EPICS Grant for Inclusive Physical Therapy Technology



Department of Electrical Engineering received the prestigious Engineering Projects in Community Service (EPICS) grant from the Institute of Electrical and Electronics Engineers (IEEE) to develop a Smart Mobile Inclusive Learning (SMILE) system.

SMILE integrates camera-based deep learning technology with an interactive hand therapy game designed to assist individuals with physical disabilities in their rehabilitation process. Collaborating with the Yayasan Pembinaan Anak Cacat (YPAC) Surabaya, the team found that the tool not only made therapy sessions more engaging, but also significantly improved patients' enthusiasm and progress during treatment.

## Teaching

### Cultivating Accessibility Awareness through Assistive and Welfare Technology Course

The Study Program of Medical Technology has offered the Assistive and Welfare Technologies course since 2023. Originally introduced under the Department of Biomedical Engineering, the course focuses on inclusive innovation and the design of assistive devices that enhance the quality of life for people with disabilities.

Students learn how to apply Universal Design principles and design thinking to develop practical and empathetic solutions for diverse user needs. The curriculum combines theoretical foundations with hands-on projects, encouraging learners to engage in ideation, prototyping, and product testing tailored to the challenges faced by people with physical or cognitive impairments.

## Stewardship

### Supporting Students through Financial Aid and Accessible Facilities

In 2024, ITS strengthened access to higher education through expanded scholarships and financial aid, awarding 11,447 undergraduate scholarships totaling Rp117.54 billion with support from alumni, ITS Endowment Fund Management Institution (LPDA-ITS), state-owned enterprises, government agencies, regional governments, industry partners, and foundations, while postgraduate students received assistance from 36 providers, covering 412 enrolled postgraduate students.

Complementing these initiatives, ITS improved campus accessibility and inclusivity. Classrooms, laboratories, and public spaces now feature ramps, tactile paths, elevators, and assistive technologies, supported by academic, mobility, and counseling services to ensure all students can thrive in a welcoming environment.

**396**

Number of  
Students with  
Disabilities

**1,62%**

Proportion of  
Employees with  
Disabilities



# 11 SUSTAINABLE CITIES AND COMMUNITIES

40

Number of Building  
with Smart Systems

68%

Total Area of Smart  
Systems' Buildings

42,3%

Total Green  
Areas

## Stewardship

### ITS Expands Campus Infrastructure Stewardship

Demonstrating a strong commitment to academic productivity and community service, eight new buildings were inaugurated to enhance learning, research, and public engagement. These include Tower 1, the Tower Research Center, the Visual Communication Design Department Building, the Robotics Workshop, Student Dormitory Block M, and three redesigned campus gates. Each facility reflects thoughtful stewardship in planning and execution, prioritizing safety, accessibility, and innovation. The development supports a more inclusive and future-ready campus environment, aligning with broader goals in education, sustainability, and institutional excellence."



### Fostering Public Transport Awareness

As part of the Czech-Indo Friendship Exhibition 2024, a strategic public discussion was held to promote greater interest in public transportation, particularly in Surabaya. The event brought together experts, policymakers, and international representatives to exchange innovative ideas and practical solutions for improving urban mobility. Emphasizing comfort, efficiency, and accessibility, the dialogue aimed to reshape public perception and encourage behavioral shifts toward sustainable transport. This initiative reflects a broader outreach effort to engage communities, raise awareness, and foster collaborative action in support of inclusive and environmentally responsible urban development"

## Research

### Modular Method for Green High-Rises

A collaboration between ITS and PT Wika Gedung marks a pioneering step in sustainable construction by adopting a modular methodology for high-rise buildings. This innovation enables detailed, offsite component construction, significantly reducing material waste, energy consumption, and on-site emissions.





The upcoming 20-story ITS Student Dormitory will be Indonesia's first modular high-rise, exemplifying how precision engineering supports net-zero emissions targets. This approach enhances structural efficiency and reinforces ITS' leadership in green construction and academic-industry synergy.

### Smart Modular Design for Sustainability

Through the Visionaries 2024 competition, ITS students introduced an innovative modular construction concept for high-rises that integrates smart city features for green development. Their proposal emphasizes prefabrication techniques to reduce waste, energy use, and carbon emissions, while enhancing structural precision. By combining modular methodology with digital services—such as smart lighting and real-time building management—the design promotes both environmental sustainability and urban livability, reflecting a commitment to smart, eco-friendly construction practices.

## Teaching

### Empowering Learning for Business Growth

ITS facilitated a targeted branding workshop for local MSME owners to enhance their market competitiveness and profitability. The training emphasized strategic brand development, digital marketing, and customer engagement, equipping participants with actionable tools. By integrating academic expertise with real-world application, this initiative reflects ITS' commitment to inclusive education, community empowerment, and sustainable economic impact.

## Research

### Celebrating Diversity Through Artistic Unity

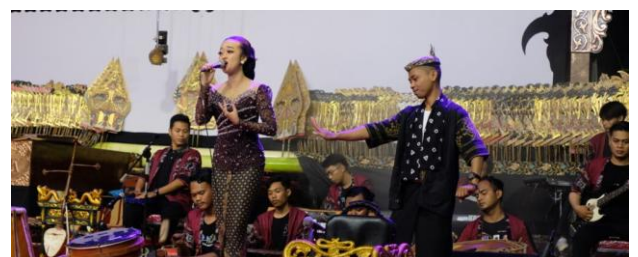
ITS celebrated national values by organizing a Pancasila Day art appreciation event on June 10, 2024. Hosted by the UKTK (Student Arts and Culture Unit), the event provided a platform for students to showcase artistic expressions reflecting national unity and cultural pride, celebrating Indonesia's founding principles.

### Designing Greener Public Offices

Through its KKN Abmas program, ITS initiated an outreach project by designing environmentally friendly government office prototypes for the Kalanganyar village administration in Sidoarjo. The design integrates passive cooling, natural lighting, and sustainable materials to reduce energy consumption and enhance comfort. This initiative supports local governance and promotes awareness of green, climate-responsive architecture, bridging academic expertise with community needs to advance grassroots sustainable development.

### Celebrating Heritage Through Shadow Puppetry

Marking its 64th anniversary, a traditional wayang kulit performance featuring the story of "Antasena Kridha" was held, bringing together students, faculty, and the public. Performed in collaboration with artists from ISI Surakarta, the event highlighted values of resilience, unity, and creativity. By using digital guides and live streaming, the performance was made accessible to diverse audiences, reinforcing ITS' role in preserving tradition while embracing innovation and inclusivity.





# 12 RESPONSIBLE CONSUMPTION AND PRODUCTION

**1,780 ton**

Amount of Waste  
Generated

**86%**

Proportion of  
Waste Recycled

**250 ton**

Amount of Waste  
Sent to Landfill

## Stewardship

### Comprehensive Sustainability Policies on Procurement and Waste

ITS demonstrates a strong institutional commitment to SDG 12 through integrated policies on ethical sourcing, sustainable procurement, and responsible waste management. Guided by the 2021 Rector's Statement Letter on Achieving SDGs and the 2024 Rector's Circular Letter on Green and Sustainable Campus, these policies promote ethical and environmentally friendly practices across campus operations.

ITS prioritizes the use of locally sourced and ethically produced food and supplies, minimizes single-use plastics and disposable items, and implements a Sustainable Canteen Management policy that extends sustainability standards to all tenants and suppliers.

ITS also enforces a comprehensive procedure for Hazardous Waste and Wastewater Management, ensuring proper sorting, secure storage, and certified third-party transport of hazardous materials. Furthermore, campus-wide waste reduction initiatives—such as digitalization, refill stations, and recycling programs—support the minimization of landfill waste and plastic use.

## Outreach



### ITS Launches Smart Composting for Zero-Emission Waste at Punggul Village under IEEE Tech4Good

ITS reaffirmed its leadership in sustainability innovation through a project under the IEEE Tech4Good 2024. Led by the Faculty of Intelligent Electrical and Informatics Technology, the initiative introduced a smart, eco-friendly composting system that integrates advanced technology with local wisdom to support Bali's zero-carbon mission.

The project was supported by the IEEE Humanitarian Technologies Board (HTB). It featured an IoT-based system with Arduino-powered sensors to monitor composting conditions in real time via the ComMonS mobile app, and solar panels providing 3,480 WP of renewable power to replace diesel engines.



Implemented in Punggul Village, Bali, the project processes up to 1,000 kilograms of ceremonial waste daily, transitioning from diesel to clean energy. This project, conducted in collaboration with Unika Atma Jaya, BINUS, UMM, UDINUS, Undiksha, and UNUD, highlights ITS' leadership in multi-institutional innovation, demonstrating how technology and cultural values can drive sustainable waste management and empower local communities.

## Teaching



### Integrating Sustainability into Learning: GPBL ITS–SIT–IHI 2024 on Waste and Water Management

ITS continues to integrate sustainability principles into its teaching and learning activities through international and industry collaborations. One notable initiatives is the Global Project-Based Learning (GPBL) ITS–SIT–IHI 2024, organized by ITS, Shibaura Institute of Technology, Nihon University, IHI Corporation, and the Government of Surabaya.

This program serves as a platform for students to learn real-world challenges, combining academic knowledge with industrial expertise. The program brought together students from Indonesia and Japan to engage in lectures, discussions, and projects focused on waste management and water management, two critical aspects of sustainable production and resource efficiency.

The program's highlight was a site visit to Surabaya Regional Company for Waterworks (PDAM Surya Sembada Surabaya), where students observed wastewater and water management practices, learning how municipal and industrial sectors collaborate responsibly. Combined with expert lectures, the program offered both theoretical and practical insights on sustainability. This initiative strengthens students' technical and collaborative skills while fostering awareness of responsible production and consumption.

## Research



### ITS 3R: Transforming Plastic Waste into Sustainable Products

The ITS 3R team, led by Rio Tria Hardhitya, transforms plastic bottle waste into durable products such as boards, tables, chairs, and souvenirs. Using a systematic recycling process, the team analyzed 16 big in-campus events and estimated up to 424 kilograms of potential plastic waste, highlighting the need for effective waste management. Collaborating with other departments and units, they implemented a digital collection system for departments and event organizers to submit waste efficiently.

This research-driven initiative earned Third Place at Inovboyo 2024 that exemplifies ITS' commitment to turning research into practical solutions, advancing circular economy practices, and strengthening the university's role as a leader in campus sustainability.



# 13 CLIMATE ACTION

55,163 GJ

Total Energy Used

333,905 kwh

Total Energy Generated from  
Renewable Resources

## Outreach

### Post-Quake Support for Communities

Following the earthquake in Tuban, the ITS Center for Infrastructure and Built Environment (MKPI) provided free building consultation services to affected communities, demonstrating a swift and compassionate outreach response. The initiative aimed to assess structural safety, offer technical advice, and raise public awareness about earthquake-resilient construction. By deploying experts directly to the field and opening accessible consultation channels, ITS empowered residents to make informed decisions about repairs and reconstruction. This effort reflects the university's commitment to disaster response, community resilience, and the practical application of academic expertise for public benefit.



### Webinar on Megathrust Preparedness

ITS, in collaboration with BMKG and BPBD, organized a public webinar to educate communities in disaster-prone coastal regions about megathrust earthquake risks and mitigation strategies. The session provided accessible insights into seismic hazards, early warning systems, and structural safety. This initiative aimed to strengthen disaster literacy and empower stakeholders to build resilience, reflecting ITS' commitment to inclusive disaster education and multi-stakeholder collaboration.

## Research

### Pentahelix Collaboration for Resilience

ITS reaffirmed its commitment to disaster risk reduction by actively engaging in the pentahelix collaboration model, which unites academia, government, industry, media, and the community. Targeting enhanced disaster preparedness across East Java, ITS collaborates with the Regional Disaster Management Agency (BPBD), the Meteorology, Climatology, and Geophysics Agency (BMKG), and other strategic partners to promote inclusive mitigation efforts.



Through public education, research-based policy input, and community empowerment, ITS helps translate scientific knowledge into practical solutions, fostering resilience and coordinated response at multiple levels.

## Teaching

### Educating Communities on Earthquake Safety

ITS actively promotes earthquake mitigation education by sharing structural reinforcement strategies tailored to megathrust risks in vulnerable regions. Through public seminars and academic outreach, ITS targets coastal communities and disaster-prone areas, aiming to raise awareness and improve building safety standards. In collaboration with the Meteorology, Climatology, and Geophysics Agency (BMKG) and the Regional Disaster Management Agency (BPBD), the initiative translates engineering research into practical guidance for local stakeholders. This teaching and learning effort reflects ITS' commitment to inclusive disaster education and community resilience through science-based solutions."

## Research

### Innovating Climate Solutions for Communities

The Climate Innovation Acceleration (CIA) program at ITS, organized with Ecoxyztem and supported by HSBC Indonesia, united startups, students, and experts to co-develop environmental solutions for empowering communities. The event highlighted real-world applications like waste-to-energy systems and sustainable business models, showing how local innovations can drive ecological and economic opportunity. By fostering cross-sector collaboration and mentoring over 30 climate-tech startups, ITS reaffirmed its role as a catalyst for community-centered, sustainable innovation.

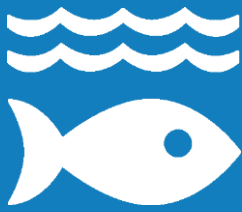


### Community Innovation for Flood Prevention

ITS introduced infiltration wells as a practical solution to help communities manage rainwater and reduce urban flooding. Targeting flood-prone areas around the ITS campus, the initiative aims to minimize surface runoff and recharge groundwater through eco-friendly infrastructure. In collaboration with the Surabaya City Government and the Department of Environment and Sanitation (DLHK), ITS combines engineering innovation with local empowerment to promote climate adaptation. This community-focused effort reflects ITS' commitment to sustainable urban resilience and cross-sector collaboration for environmental impact."

### VR Innovation for Disaster Preparedness

ITS, in collaboration with the East Java Regional Disaster Management Agency (BPBD Jatim), launched a virtual reality (VR) disaster simulation to strengthen public awareness and preparedness. Targeting students, local communities, and disaster-prone areas, the innovation offers immersive learning experiences that simulate emergency scenarios such as earthquakes and tsunamis. By combining cutting-edge technology with educational outreach, the initiative empowers users to understand response strategies and improve decision-making during crises. This community-focused innovation reflects ITS' commitment to inclusive disaster education and multi-stakeholder collaboration for resilience."



# 14 LIFE BELOW WATER

## Stewardship



### Green and Sustainable Campus Policy for Life Below Water

ITS demonstrates its strong commitment to preserving life below water through the Rector's Circular Letter on Green and Sustainable Campus (2024) which covers responsible water and waste management to prevent water pollution and protect marine ecosystems.

The university also implements a comprehensive procedure for wastewater treatment to ensure proper handling of effluents. In addition, ITS canteen regulations emphasize reducing plastic use and eliminating single-use materials to minimize pollution impacts on aquatic environments.

## Teaching



(Source: Universitas Hang Tuah)

### Guest Lecture on Sustainable Coastal Engineering

ITS, in collaboration with Universitas Hang Tuah, held a guest lecture entitled "Sustainable Coastal Engineering: Techniques and Practices for Coastal Resilience", featuring Prof. Hitoshi Tanaka from Tohoku University, Japan. Attended by lecturers and students from both universities, the lecture integrated sustainability values into the learning process through discussions on sustainable coastal engineering methods and strategies to enhance coastal resilience in the face of climate change.



## Outreach



### Water Quality Improvement through Filtration and Reverse Osmosis System

A team from the Department of Chemistry ITS implemented a water quality improvement program in Kampung Eduwisata Sanan, Malang, an area with limited access to clean freshwater. The initiative introduced an innovative water treatment system that integrates filtration and reverse osmosis (RO) technologies to reduce iron (Fe) and manganese (Mn) levels in groundwater, improving its safety for daily use. Beyond providing a practical solution, the program also empowered local residents through education on sustainable and community based water treatment practices.



### Mangrove and Coral Reef Conservation Program on Bawean Island

A sustainability outreach initiative led by ITS organized a coastal conservation program on Bawean Island, involving the planting of 150 mangrove seedlings and coral reef restoration activities. The program was carried out in collaboration with PT PLN (Persero), the Environmental Agency of Gresik Regency, the Hijau Daun Community, and student volunteers from several universities. In addition to ecosystem restoration, the team conducted educational activities to raise public awareness of marine conservation and the importance of preserving coastal biodiversity.

## Research

### Development of a Multi Purpose Floating Navigation Vehicle

As a leading technological university, ITS collaborated through the Matching Fund (MF) Kedaireka program with PT Adiluhung Sarana Segara Indonesia to develop a prototype of a Multi Purpose Floating Navigation Vehicle.

This innovative vessel integrates marine renewable energy systems powered by solar and wind energy, replacing fossil fuel-based power sources. The project contributes to reducing water pollution and carbon emissions, promoting cleaner and more sustainable maritime operations.



### Assessment of Mangrove Ecotourism Governance Using the RRR Framework in Surabaya

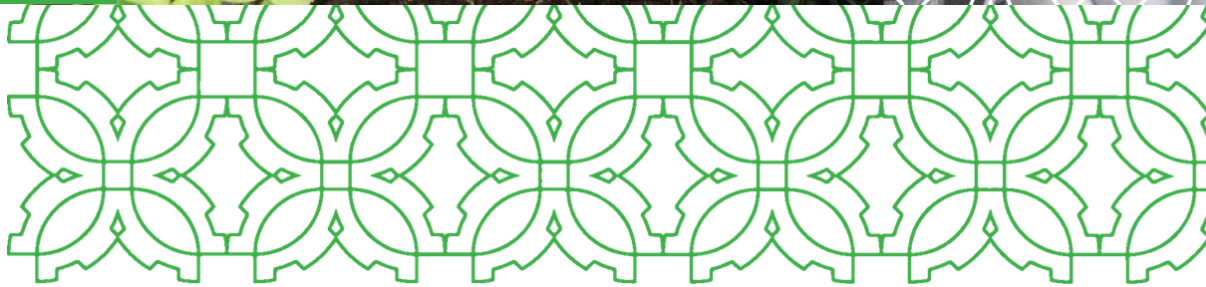
In 2024, ITS lecturer Yanto Budisusanto and his research team conducted and published a study on Mangrove Ecotourism in Gunung Anyar and Medokan Sawah, Surabaya. The research aimed to evaluate land management rights, land use restrictions, and management responsibilities to ensure the sustainable utilization of the Surabaya Mangrove Garden in alignment with spatial planning and conservation policies. Using the RRR (Rights, Restrictions, and Responsibilities) framework, the study provides valuable insights for improving policy coherence and sustainable coastal

**“The ocean must not be exploited without regard for its sustainability.”**

—Dr. Ing. Ir. Setyo Nugroho (Lecturer,  
Department of Marine Transportation Engineering  
ITS)



# 15 LIFE ON LAND



## Stewardship

### Stewardship and Sustainable Land Management at ITS

ITS demonstrates a strong commitment to conserving terrestrial ecosystems through integrated policies and actions guided by the Rector's Circular Letter on Green and Sustainable Campus Development (2024).

This stewardship is reflected in multiple dimensions: ensuring sustainably farmed food and ethical canteen management, integrating biodiversity conservation in campus planning, preventing invasive species, protecting wildlife and vulnerable ecosystems, and promoting education and research on ecological preservation.

Furthermore, ITS enforces a comprehensive waste management policy aligned with the 3R principles, reducing plastic usage, and ensuring the responsible handling of hazardous waste (B3). Through these actions, ITS contributes to the global goals of maintaining ecosystem resilience, protecting biodiversity, and fostering sustainable land use within and beyond the campus environment.

## Outreach



### Sustainable Land Restoration and Community Based Ecotourism

ITS strengthens the sustainability of terrestrial ecosystems by combining environmental restoration with livelihood development through various community outreach programs. In Bawean Island, mangrove planting and rehabilitation initiatives engage local residents in restoring degraded coastal areas while improving ecological resilience. The same spirit of sustainability extends to urban environments through urban farming projects in Surabaya, where residents receive training and technical assistance to optimize limited land for productive and eco-friendly agriculture.



Beyond urban and coastal efforts, ITS also promotes ecosystem based ecotourism and educational tourism in Sleman, Nganjuk, and the Bromo Tengger Semeru area. In these regions, local communities actively participate in reforestation, landscape planning, and land-use education as part of integrated conservation efforts.



Collectively, these initiatives represent a holistic approach that not only rehabilitates diverse ecosystems but also enhances community capacity, strengthens local economies, and fosters long-term stewardship of natural resources.

### Biodiversity Education and Environmental Awareness

Complementing its field based restoration efforts, ITS advances biodiversity conservation through education, public awareness, and participatory learning. A series of workshops, seminars, and citizen science programs, such as biodiversity monitoring and environmental training for teachers and local communities in Surabaya and East Java, enhance public understanding of ecosystem dynamics and strengthen collective responsibility for conservation.

These educational initiatives are further supported by environmental awareness campaigns, including tree-planting movements and Earth Day celebrations, which unite students, faculty, and the wider community in practical environmental actions. By integrating scientific knowledge with community participation, these programs nurture a culture of ecological responsibility and inspire collaborative efforts to preserve biodiversity and safeguard terrestrial ecosystems for future generations.

## Teaching



### Teaching for Sustainability: Raising Biodiversity Awareness at ITS

Lecturers, staff, and students from ITS are provided with opportunities to take part in a continuous learning program focused on sustainable urban agriculture and ecosystem management. Conducted every Friday through hybrid sessions lasting two hours each, the program delivers practical training on Carbon Neutrality, Ecosystems, Biodiversity, and Environmental Sustainability.

A total of 61 participants joined the program, showcasing their creativity and gardening skills by cultivating various types of herbal plants without the use of chemical fertilizers or pesticides. Through these weekly sessions, equivalent to 8–10 hours of learning per month, participants enhance their knowledge of sustainable land use and biodiversity conservation, while fostering a culture of environmental awareness and stewardship within the academic community.

## Research

Supporting ecosystem biodiversity, the Directorate of Research and Community Service at ITS provides opportunities for lecturers and researchers to obtain funding and equipment for wildlife research, habitat monitoring, and environmental conservation through the Wildlife Acoustics Grant Program. These resources aim to generate valuable scientific data, foster conservation innovation, and contribute to biodiversity preservation.



# 16 PEACE, JUSTICE AND STRONG INSTITUTIONS

## Stewardship



### Cultivating Ethical Awareness in Academia

National-first SDGs literacy assessment was introduced to measure and strengthen students' understanding of global development principles, with emphasis on justice, transparency, and institutional accountability. The initiative targeted new university entrants and embedded civic values into early academic orientation. By promoting awareness of anti-corruption, inclusive governance, and ethical leadership, the activity fostered a culture of integrity and participatory citizenship. This proactive approach reflects sustained institutional stewardship in advancing responsible governance and preparing future leaders for complex societal challenges."

### Building Accountability in Higher Education

ITS reinforced its institutional stewardship aligned with SDG 16 by conducting a focused workshop on the completion of the Integrity Zone Evaluation Worksheet (LKE ZI-WBK). The activity, held in collaboration with the Ministry of Higher Education, Science, and Technology, aimed to guide academic units in fulfilling key reform criteria, including change management, governance structuring, human resource development, accountability, supervision, and public service quality. By facilitating shared understanding and technical support across faculties, ITS demonstrated its commitment to building a corruption-free, transparent, and accountable bureaucracy. This initiative reflects ITS' strategic role in promoting strong institutions and ethical governance within the higher education sector"

## Teaching

### Policy-Driven Cybersecurity for Public Institutions

A cybersecurity training initiative was conducted with the Ministry of Social Affairs' Data and Information Center (Pusdatin) to strengthen institutional readiness against digital threats.



The program enhanced the technical capabilities of government personnel through practical sessions on threat identification, incident response, and digital forensics. This cross-sectoral partnership aimed to build cyber resilience within public institutions, supporting secure governance and informed policy-making in the digital era.

### Cybersecurity Awareness Through Nabu Training

A cybersecurity training was conducted via the ITS Nabu platform to enhance digital resilience for university lecturers and government IT personnel across Java and Bali. The program delivered practical instruction on document validation and incident analysis, addressing threats like unauthorized access and gambling site intrusions. This initiative contributed to upskilling and capacity-building for stakeholders in policy-making and institutional governance. It also supported outreach to improve understanding of technology-related risks for informed decision-making in digital law, public administration, and national security, while promoting education on emerging cyber threats linked to global issues.

## Outreach

### Collaborative Dialogue on Maritime Security

ITS' Faculty of Marine Technology and the Indonesian Maritime Security Agency (BAKAMLA RI) held a strategic discussion on maritime security in national waters. This platform for knowledge dissemination and public engagement addressed maritime law enforcement, technological innovation, and coastal economic resilience. The forum, involving policymakers, academic experts, and stakeholders, promoted education, capacity-building, and cross-sectoral understanding of complex maritime challenges, including migration, displacement, and climate-induced vulnerabilities.

### Formulating Policy for Higher Education

A strategic meeting of the Council of Trustees (MWA) from PTN-BH universities was held at ITS to formulate the Government Regulation Draft (RPP RI) on Higher Education Administration. The event facilitated structured dialogue among leaders, policymakers, and legal experts on governance, academic autonomy, and accountability. This forum served as a platform for knowledge exchange and capacity-building for stakeholders. Discussions also covered broader issues like economic equity, legal harmonization, technological advancement, and climate-responsive education, reinforcing ITS' role in supporting inclusive governance.



## Research

### Strengthening Cybersecurity Through Institutional Innovation

Computer Security Incident Response Team (CSIRT) ITS was established in collaboration with the National Cyber and Crypto Agency (BSSN) to enhance cyber resilience in higher education. The initiative provides a structured mechanism to detect, prevent, and respond to digital threats while advancing human resource development in cybersecurity. Through its mission of coordination, reliability enhancement, and capacity-building, CSIRT ITS serves as a strategic platform for upskilling academic and government personnel. This supports informed decision-making and policy formulation on data protection, digital infrastructure, and cyber governance, contributing to broader institutional readiness.



# 17 PARTNERSHIPS FOR THE GOALS

**559** Number of  
International  
Partners

**59** Number of  
Partners  
by Countries

## Research

### ITS Launches SustainaBlue, Southeast Asia's Blue Sustainability Centre

In June 2024 ITS launched the SustainaBlue, designed to become a Blue Sustainability Centre in Southeast Asia, in collaboration with three other universities and supported by EU funding under the Erasmus Plus scheme. The initiative focuses on the sustainable use of maritime resources, green and blue economy acceleration, and the establishment of a coordinated ecosystem spanning academia, industry, government and communities. Through this initiatives, ITS demonstrates how its research agenda aligns with global challenges, utilises international collaboration and funding, and seeks to translate innovation into tangible societal benefit.



## Teaching

### UMAP Discovery Camp Winter 2024

In February 2024, ITS hosted the UMAP Discovery Camp Winter 2024, a cross - university initiative engaging students and early-career researchers in practical SDGs monitoring. Through site visits, case studies, and workshops with local stakeholders, the program enhanced data literacy and deepened understanding of SDGs implementation in diverse local contexts.





## Outreach

### ITS' Relationship with Regional NGOs and Government for SDGs

#### Optimizing Regional Resources, ITS Signs MoU with Central Kalimantan Provincial Government

In 2024, ITS advanced SDG 17 by strengthening partnerships with regional governments and NGOs. A key milestone was the MoU with the Central Kalimantan Government to promote renewable energy, sustainable land use, and human capital development.



#### ITS Digitization of North Morowali Regency Government Service System

ITS formalized cooperation with the City of Bima, focusing on leveraging technology-based solutions to accelerate local economic growth, improve human resource development, and empower communities to actively participate in sustainable progress. These regional partnerships exemplify how ITS bridges research and innovation with practical applications that directly address local development challenges while contributing to broader SDG targets.



### Cross sectoral dialogue about SDGs in ITS

#### Supporting Village Development, ITS Holds ADIDES Congress

In January 2024, ITS reaffirmed its role as a key facilitator of cross-sectoral dialogue on the Sustainable Development Goals (SDGs). Officially designated as an SDGs Center by Bappenas, ITS served as a strategic platform for collaboration among academia, government, NGOs, and international partners. This role was notably demonstrated during the Kongres ADIDES, where ITS contributed significantly to shaping village development policies by providing evidence-based insights that supported sustainable, inclusive, and locally grounded governance aligned with national and global SDG frameworks"



#### Presenting GeolCON 2024, ITS Collaborates with Government to Support Sustainable Development

In July 2024, ITS enhanced its global engagement by hosting GeolCON 2024, a premier international forum on sustainable development. The event convened global experts to share innovations in renewable energy, climate resilience, digital transformation, and smart cities. Through this initiative, ITS reinforced its position as both a national knowledge hub and an international thought leader in advancing the SDGs."

# Contact

Institutional Reputation Unit  
Quality Assurance Office  
Postgraduate Building,  
ITS Campus Sukolilo, Surabaya 60111  
Indonesia

**Email**

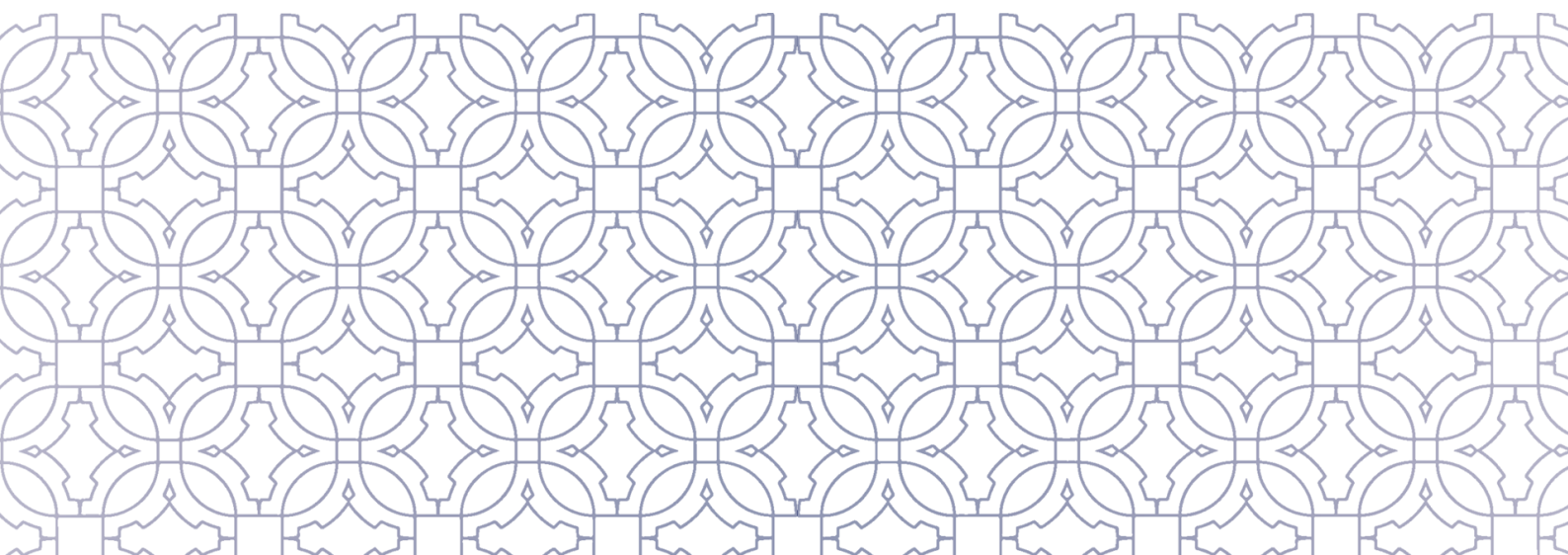
wcu@its.ac.id

# More Info



[its.ac.id/sustainability/sdgs/](https://its.ac.id/sustainability/sdgs/)







SUSTAINABLE  
DEVELOPMENT  
GOALS

Institut Teknologi Sepuluh Nopember  
Sustainability Report  
2024 - 2025

