

DAFTAR PUSTAKA

- [1] Badan Pengawas Obat dan Makanan Republik Indonesia, *PERATURAN BPOM NOMOR 20*, no. STANDAR CARA DISTRIBUSI OBAT YANG BAIK. Indonesia: Jaringan Dokumentasi dan Informasi Hukum (JDIH) BPOM, 2025. Diakses: 31 Desember 2025. [Daring]. Tersedia pada: <https://jdih.pom.go.id/download/flip/1672/20/2025>
- [2] B. S. Panigrahi, A. Vanitha, M. R. Palav, S. B. G. Tilak Babu, A. M. Nair, dan N. Bogiri, "IoT Applications in Cold Chain Management for Pharmaceuticals: Ensuring Product Integrity and Safety," dalam *5th International Conference on Recent Trends in Computer Science and Technology, ICRTCST 2024 - Proceedings*, Institute of Electrical and Electronics Engineers Inc., 2024, hlm. 66–70. doi: 10.1109/ICRTCST61793.2024.10578468.
- [3] S. R. Unnikandam Veetil, G. Respicio, D. D. Zhang, D. Garcia, S. Malta, dan H. Long, "Temperature Excursion Management: A Tier-Based Approach for Commercial Oral Solid Dosage Forms," *AAPS Journal*, vol. 26, no. 6, Des 2024, doi: 10.1208/s12248-024-00976-w.
- [4] V. Pajić, M. Andrejić, dan P. Chatterjee, "Enhancing Cold Chain Logistics: A Framework for Advanced Temperature Monitoring in Transportation and Storage," *Mechatronics and Intelligent Transportation Systems*, vol. 3, no. 1, Jan 2024, doi: 10.56578/mits030102.
- [5] I. Jaelani, B. Harsanto, Y. Azis, D. Sari, dan U. Kaltum, "Cold chain logistics challenges on sustainability: A systematic review," 1 Desember 2025, *Elsevier Ltd.* doi: 10.1016/j.sfr.2025.101559.
- [6] Akmal Darman Putra, Sarjon Defit, dan Gunadi Widi Nurcahyo, "Penerapan IoT pada Alat Temperature Monitoring System Cold Chain Box Vaccine Menggunakan Sensor DS18B20," *Jurnal KomtekInfo*, vol. 12, hlm. 1–11, Mar 2025, doi: 10.35134/komtekinfo.v12i1.589.
- [7] R. Fadhlur, J. Dira Tera, I. Dwisaputra, dan A. Rizki Maulana, "Sistem Monitoring Suhu Menggunakan Internet of Things pada Cold Chain Storage Vaksin," dalam *Prosiding Seminar Nasional Inovasi Teknologi Terapan*, Politeknik Manufaktur Negeri Bangka Belitung, 2025, hlm. 364–372. Diakses: 3 Januari 2026. [Daring]. Tersedia pada: <https://www.snitt.polman-babel.ac.id/index.php/snitt/article/view/681>
- [8] R. R. Yenare dkk., "A comprehensive review of portable cold storage: Technologies, applications, and future trends," *Alexandria Engineering Journal*, vol. 94, hlm. 23–33, Mei 2024, doi: 10.1016/j.aej.2024.03.014.
- [9] B. Bhuvaneswaran, P. Vijay, R. Vijayakumar, dan S. Ujjain, "Cold Chain Reserve Dashboard - A Real Time Dashboard to Visually Represent the Quantity of the Produced and Stored Goods," dalam *Proceedings of the 2025*

11th International Conference on Communication and Signal Processing, ICCSP 2025, Institute of Electrical and Electronics Engineers Inc., 2025, hlm. 1016–1021. doi: 10.1109/ICCSP64183.2025.11089311.

- [10] M. Frontera-Bergas, M. Vinaixa-Fernández, B. Oliver-Riera, J. Ramis-Bibiloni, E. Isern, dan B. Alorda-Ladaria, “A Multi-Sensor IoT Platform for monitoring medicine storage beyond the hospital,” *Internet of Things (The Netherlands)*, vol. 33, Sep 2025, doi: 10.1016/j.iot.2025.101711.
- [11] V. Parameshwari, J. A. Faruk, J. K. Bharath, dan S. Haribalaji, “A Smart Drug Inventory and Supply Chain Tracking System Using IoT,” dalam *International Conference on Trends in Engineering Systems and Technologies, ICTEST 2025 - Proceedings*, Institute of Electrical and Electronics Engineers Inc., Apr 2025. doi: 10.1109/ICTEST64710.2025.11042842.
- [12] G. Boopathi Raja, G. Karthik Raja, R. Kavinraja, R. Kavushik Balaji, dan S. Mithula, “Blockchain-Integrated Drug Tracking System with IoT-Enabled Containers,” dalam *International Conference on Computational Robotics, Testing and Engineering Evaluation, ICCRTEE 2025*, Institute of Electrical and Electronics Engineers Inc., 2025. doi: 10.1109/ICCRTEE64519.2025.11052983.
- [13] I. B. A. K. Kanaka, “Prototype Smart Monitoring System Pendingin Berbasis *Internet of things* untuk Truk Refrigerasi,” Applied Bachelor’s Thesis, Politeknik Negeri Bali, Badung, Bali, Indonesia, 2024. Diakses: 9 Januari 2026. [Daring]. Tersedia pada: <https://repository.pnb.ac.id/id/eprint/14146/>
- [14] N. A. Arlan, M. Rivai, dan H. Pirngadi, “Monitoring Suhu Chiller Berbasis Internet of Things Menggunakan Thermal Camera,” *Jurnal Teknik ITS*, vol. 12, no. 3, hlm. A202–A207, 2023, Diakses: 9 Januari 2026. [Daring]. Tersedia pada: https://www.researchgate.net/publication/377122142_Monitoring_Suhu_Chiller_Berbasis_Internet_of_Things_Menggunakan_Thermal_Camera
- [15] P. I. Azizah, M. Arman, dan A. Setyawan, “Monitoring Suhu dan Kelembapan Menggunakan LoRa Arduino dan ESP32 Berbasis *Internet of things* melalui Aplikasi Mobile,” dalam *Proceedings of the 14th Industrial Research Workshop and National Seminar*, Bandung, Indonesia: Politeknik Negeri Bandung, Jul 2023. Diakses: 9 Januari 2026. [Daring]. Tersedia pada: <https://jurnal.polban.ac.id/proceeding/article/view/5418>
- [16] R. Santosa, P. A. Sari, dan A. T. Sasongko, “Sistem Monitoring Suhu dan Kelembapan Berbasis IoT (Internet of Thing) pada Gudang Penyimpanan PT Sakafarma Laboratories,” *Jurnal Teknologi Dan Sistem Informasi Bisnis*, vol. 5, no. 4, hlm. 391–400, Okt 2023, doi: 10.47233/jteksis.v5i4.943.
- [17] R. D. O. R. Hiariej, D. Angela, dan T. A. Nugroho, “Rancang Bangun Sistem Monitoring Lemari Pendingin Vaksin Covid-19 Dalam Proses Distribusi,”

Bachelor's Thesis, Institut Teknologi Harapan Bangsa, Bandung, Jawa Barat, 2022. Diakses: 9 Januari 2026. [Daring]. Tersedia pada: https://repository.ithb.ac.id/id/eprint/55/9/1318010_Paper-TA.pdf

- [18] A. D. Hassebo, K. B. Montes, dan E. Cabrera, "Arduino-ESP32 based Smart Irrigation System Arduino-ESP32 based Smart Irrigation System Arduino-ESP32 based Smart Irrigation System," dalam *Proceedings of the 2025 ASEE Northeast Section Conference*, Bridgeport, CT, United States: American Society for Engineering Education (ASEE), Mar 2025. Diakses: 10 Januari 2026. [Daring]. Tersedia pada: https://academicworks.cuny.edu/ny_pubs/1245/
- [19] I. 'Ad Suwandi, "Perancangan Sistem Pengukuran Suhu Dan Kelembaban Otomatis Dengan Md_Parola Dan Sensor Dht22," *JPER) Sekolah Tinggi Teknologi Bontang CCS*, vol. 1, no. 2, Des 2023, doi: <https://doi.org/10.59811/jper.v1i2.88>.
- [20] R. Artayuda, R. Candra, H. Rasjid, dan Y. Chalri, "INFORMASI PENGISIAN BATERAI KENDARAAN SEPEDA MOTOR LISTRIK BERBASIS *INTERNET OF THINGS* (IOT)," *JIKA (Jurnal Informatika) Universitas Muhammadiyah Tangerang*, vol. 9, no. 2, hlm. 184–191, Mei 2025, Diakses: 10 Januari 2026. [Daring]. Tersedia pada: <https://jurnal.umt.ac.id/index.php/jika/article/view/13750>
- [21] S. Antonius Panjaitan, P. Gunoto, dan M. Algusri, "RANCANG BANGUN SISTEM KENDALI DAN MONITORING PENGGUNAAN PEMBATAAN ARUS LISTRIK BERBASIS IoT (*INTERNET OF THINGS*)," *Sigma Teknika*, vol. 7, no. 2, hlm. 337–348, Nov 2024, Diakses: 10 Januari 2026. [Daring]. Tersedia pada: <https://www.semanticscholar.org/paper/RANCANG-BANGUN-SISTEM-KENDALI-DAN-MONITORING-ARUS-Panjaitan-Gunoto/d690a84f21204ecd0ac1c107307ac44526112df8>
- [22] R. Waruwu, Mohd. Ilyas Hadikusuma, dan Rianda, "Rancang Bangun Alat Uji Kapasitas Baterai Lithium-Ion Berbasis Arduino Mega," *JURNAL MULTIDISIPLIN ILMU AKADEMIK*, vol. 2, no. 4, hlm. 843–853, Jul 2025, doi: [10.61722/jmia.v2i4.6172](https://doi.org/10.61722/jmia.v2i4.6172).
- [23] A. Eltaher, D. Abu-Juma'a, D. Hashem, dan H. Alawneh, "Design and Implementation of a Malware Detection Tool Using Network Traffic Analysis in Android-based Devices," dalam *IEEE Jordan International Joint Conference on Electrical Engineering and Information Technology, JEEIT 2023*, Amman, Jordan: Institute of Electrical and Electronics Engineers Inc., Mar 2023, hlm. 276–280. doi: [10.1109/JEEIT58638.2023.10185826](https://doi.org/10.1109/JEEIT58638.2023.10185826).
- [24] A. Shakirovich Ismailov Zafar Botirovich Jo, "Study of arduino microcontroller board," *Science and Education Scientific Journal*, vol. 3, no. 3, hlm. 172–179, Mar 2022, Diakses: 16 Januari 2026. [Daring]. Tersedia pada:

https://www.researchgate.net/publication/359502443_Study_of_arduino_microcontroller_board

- [25] P. Megantoro *dkk.*, “Instrumentation system for data acquisition and monitoring of hydroponic farming using ESP32 via Google Firebase,” *Indonesian Journal of Electrical Engineering and Computer Science*, vol. 27, no. 1, hlm. 52–61, Jul 2022, doi: <http://doi.org/10.11591/ijeecs.v27.i1.pp52-61>.
- [26] N. Helda dan S. Suryadi, “Koneksi Tanpa Batas: Membangun Portfolio Web Interaktif dengan Vue, Nuxt, Dan API,” *Jurnal Minfo Polgan*, vol. 12, no. 1, hlm. 1557–1568, Agu 2023, doi: <https://doi.org/10.33395/jmp.v12i1.12892>.
- [27] M. P. Ukpongson, “REST API for a Store Management System Using Flask,” Bachelor’s Thesis, Sumy State University, Sumy, Ukraine, 2023. Diakses: 7 Januari 2026. [Daring]. Tersedia pada: <https://essuir.sumdu.edu.ua/server/api/core/bitstreams/eac2ca94-254b-4578-acbb-4918e72e4df8/content>
- [28] H. J. Jara Ochoa, R. Peña, Y. Ledo Mezquita, E. Gonzalez, dan S. Camacho-Leon, “Comparative Analysis of Power Consumption between MQTT and HTTP Protocols in an IoT Platform Designed and Implemented for Remote Real-Time Monitoring of Long-Term Cold Chain Transport Operations,” *Sensors*, vol. 23, no. 10, Mei 2023, doi: 10.3390/s23104896.
- [29] T. Mazhar *dkk.*, “Quality of Service (QoS) Performance Analysis in a Traffic Engineering Model for Next-Generation Wireless Sensor Networks,” *Symmetry (Basel)*, vol. 15, no. 2, Feb 2023, doi: 10.3390/sym15020513.
- [30] A. Kurnia Saleh, H. Peni Agustin Tjahyaningtijas, Nurhayati, dan L. Rakhmawati, “Quality of Service (QoS) Comparative Analysis of Wireless Network,” *Indonesian Journal of Electrical and Electronics Engineering (INAJEEE)*, vol. 5, no. 2, hlm. 30–37, 2022, Diakses: 16 Februari 2026. [Daring]. Tersedia pada: <https://journal.unesa.ac.id/index.php/inajeee/article/view/18557/8271>
- [31] G. Mehmood, M. Z. Khan, A. K. Bashir, Y. D. Al-Otaibi, dan S. Khan, “An Efficient QoS-Based Multi-Path Routing Scheme for Smart Healthcare Monitoring in Wireless Body Area Networks,” *Computers and Electrical Engineering*, vol. 109, Jul 2023, doi: 10.1016/j.compeleceng.2022.108517.
- [32] S. Muzafarov *dkk.*, “Influence of temperature and humidity of the air on discharge processes in electric filters,” dalam *E3S Web of Conferences*, EDP Sciences, Agu 2024. doi: 10.1051/e3sconf/202456301019.
- [33] Nurhaswinda *dkk.*, “Analisis regresi linier sederhana dan penerapannya,” *Jurnal Cahaya Nusantara*, vol. 1, no. 2, hlm. 69–78, Jan 2025, Diakses: 9 Januari 2026. [Daring]. Tersedia pada: <https://creativecommons.org/licenses/by/4.0/>

- [34] R. R. Sutanto, H. R. Fauzan, dan M. Fathurahman, “Analisa Akurasi Pembacaan Suhu oleh Modul DHT22 pada Sistem Monitoring Inkubator Telur Ayam,” dalam *Proceedings of SNIV: Seminar Nasional Inovasi Vokasi*, Seminar Nasional Inovasi Vokasi, Jul 2025, hlm. 526–534. Diakses: 11 Januari 2026. [Daring]. Tersedia pada: <https://prosiding.pnj.ac.id/index.php/sniv/article/view/3915>
- [35] G. Sumampouw, R. D. Saputra, M. Sandy, A. M. Hidayat, dan R. M. Utomo, “Prototype Sistem Pengaturan Kecepatan Kipas DC Otomatis Menggunakan Sensor PIR, Sensor Ultrasonik, Sensor DHT11 Berbasis Mikrokontroler Arduino Uno dan NodeMCU,” *ELECTRICIAN – Jurnal Rekayasa dan Teknologi Elektro*, vol. 16, no. 1, hlm. 46–55, Jan 2022.
- [36] L. Gayatri, “Alat Hitung Lumen,” Diploma Thesis, Politeknik Negeri Cilacap, Cilacap, Indonesia, 2022. Diakses: 12 Januari 2026. [Daring]. Tersedia pada: <https://elib.pnc.ac.id/387/>
- [37] R. Nadeak, “Rancang Bangun Tabungan Uang Kertas dengan Autentikasi Sidik Jari Berbasis *Internet of things*,” Bachelor’s Thesis, Universitas Nasional, Jakarta, Indonesia, 2022. Diakses: 12 Januari 2026. [Daring]. Tersedia pada: <https://repository.unas.ac.id/id/eprint/5204/>