

- Ahmad, I.A., Suryanto, M., 2012. Analisis Produktivitas dan Biaya Operasional *Tower crane* Pada Proyek Puncak Central Business District Surabaya. Universitas Negeri Surabaya.
- Ahmad Satria, F., Sindhu Pribadi, O., Rosnarti, D., Arsitektur, J., Trisakti, U., 2021. STRUKTUR *SPACE FRAME* SEBAGAI ELEMEN ESTETIKA PADA RANCANGAN ATAP STADION AKUATIK CENTER GBK, JAKARTA PUSAT *SPACE FRAME* STRUCTURE AS AESTHETIC ELEMENT IN THE ROOF DESIGN OF THE AQUATIC CENTER STADIUM IN GBK, CENTRAL JAKARTA.
- Ali, B., Zahoor, H., Aibinu, A., Nasir, A.R., Tariq, A., Imran, U., Khan, R.M., 2021. BIM AIDED INFORMATION and VISUALIZATION REPOSITORY for MANAGING CONSTRUCTION DELAY CLAIMS. *Journal of Information Technology in Construction* 26, 1023–1040. <https://doi.org/10.36680/J.ITCON.2021.054>
- Alijoyo, A., Wijaya, Q.B., Jacob, I., 2021. Structured or Semi-structured Interviews.
- Amalia, S.D., Purwadi, D., 2017. Analisis Produktivitas *Tower crane* pada Proyek Pembangunan Gedung Tunjungan Plaza 6 Surabaya. *Rekayasa Teknik Sipil - Rekats* 01, 144–155.
- Angelica, N.P., Puspasari, V.H., 2024. Kajian Faktor-Faktor yang Mempengaruhi Produktivitas Tenaga Kerja Proyek Konstruksi. *Basment Jurnal Teknik Sipil*.
- Athmani, W., Sriti, L., Dabaieh, M., Younsi, Z., 2023. The Potential of Using Passive Cooling Roof Techniques to Improve Thermal Performance and Energy Efficiency of Residential Buildings in Hot Arid Regions. *Buildings* 13. <https://doi.org/10.3390/buildings13010021>
- Avinash, M., Rupesh, P., 2008. Development of *Winch* Machine For *Erection* of Transmission Tower-A Review. *International Research Journal of Engineering and Technology* 7551.
- Bahr, T., Laszig, F., 2021. PRODUCTIVITY DEVELOPMENT IN THE CONSTRUCTION INDUSTRY AND HUMAN CAPITAL: A LITERATURE REVIEW. *An International Journal (CiVEJ)* 8. <https://doi.org/10.5121/civej.2021.8101>
- Bannikov, D.O., Radkevich, A.V., Nikiforova, N.A., 2019. Features of the design of steel frame structures in India for seismic areas. *Materials Science Forum* 968, 348–354. <https://doi.org/10.4028/www.scientific.net/MSF.968.348>
- Bilici, E., Andiç, G.V., Akay, A.E., Sessions, J., 2019. Productivity of a portable *winch* system used in salvage logging of storm-damaged timber. *Croatian Journal of Forest Engineering* 40, 311–318. <https://doi.org/10.5552/crojfe.2019.590>
- Cai, B., Ye, Z., Chen, S., Liang, X., 2024. Reducing Safety Risks in Construction *Tower crane* Operations: A Dynamic Path Planning Model. *Applied Sciences (Switzerland)* 14. <https://doi.org/10.3390/app142210599>
- Chandra, S.S., Sepasgozar, S.M.E., Kumar, V.R.P., Singh, A.K., Krishnaraj, L., Awuzie, B.O., 2023. Assessing Factors Affecting Construction Equipment Productivity Using Structural Equation Modeling. *Buildings* 13. <https://doi.org/10.3390/buildings13020502>
- Choi, J.K., Shiraishi, T., Tanaka, T., Kondo, H., 2011. Safe operation of an autonomous underwater towed vehicle: Towed force monitoring and control. *Autom Constr* 20, 1012–1019. <https://doi.org/10.1016/j.autcon.2011.04.002>

- Choi, Y.S., Kim, T., Kim, S., 2020. Comparative Analysis of Lifting Loads of *Tower cranes* by Core Structure Construction Methods. *International Journal of High-Rise Buildings* 9, 301–306. <https://doi.org/10.21022/IJHRB.2020.9.3.301>
- Danel, T., Lafhaj, Z., Puppala, A., Lienard, S., Richard, P., 2021. Proposal for *tower crane* productivity indicators based on data analysis in the era of construction 4.0. *Buildings* 11, 1–15. <https://doi.org/10.3390/buildings11010021>
- Dokumen Arsip Proyek, 2023. Gedung Gelanggang Inovasi dan Kreativitas (GIK) UGM. Yogyakarta.
- Duțu, I.C., Frățilă, C., Axinte, T., Munteanu, M.G., Calancea, L., Diaconu, M., Drăgan, C., 2021. Control efficiency improvement of an electro-hydraulic *winch*. *Technium Romanian Journal of Applied Sciences and Technology*. <https://doi.org/10.47577/technium.v3i9.5093>
- El-Tourkey, M., Alshibani, A., Mohammed, A., Shash, A., Tuffaha, F., 2022. An integrated decision support system for *mobile crane* selection. *Expert Syst Appl* 189. <https://doi.org/10.1016/j.eswa.2021.116053>
- Forsythe, P.J., Sepasgozar, S.M.E., 2019. Measuring installation productivity in prefabricated timber construction. *Engineering, Construction and Architectural Management* 26, 578–598. <https://doi.org/10.1108/ECAM-09-2017-0205>
- Görçün, Ö.F., Doğan, G., 2023. *Mobile crane* selection in project logistics operations using Best and Worst Method (BWM) and fuzzy Measurement of Alternatives and Ranking according to COMpromise Solution (MARCOS). *Autom Constr* 147. <https://doi.org/10.1016/j.autcon.2022.104729>
- Grzywiński, M., 2016. Optimization Of Double-Layer Braced Barrel Vaults. *Transactions of the VŠB – Technical University of Ostrava, Civil Engineering Series*. 15. <https://doi.org/10.1515/tvsb-2015-0006>
- Guo, H., Zhou, Y., Pan, Z., Zhang, Z., Yu, Y., Li, Y., 2022. Automated Selection and Localization of *Mobile cranes* in Construction Planning. *Buildings* 12. <https://doi.org/10.3390/buildings12050580>
- Han, S., Hasan, S., Lei, Z., Altaf, M.S., Al-Hussein, M., 2013. A framework for crane selection in large-scale industrial construction projects, dalam: ISARC 2013 - 30th International Symposium on Automation and Robotics in Construction and Mining, Held in Conjunction with the 23rd World Mining Congress.
- Hasan, S., Bouferguene, A., Al-Hussein, M., Gillis, P., Telyas, A., 2013. Productivity and CO2 emission analysis for *tower crane* utilization on high-rise building projects. *Autom Constr* 31, 255–264. <https://doi.org/10.1016/j.autcon.2012.11.044>
- Hayashi, S., Gondo, T., 2021. Analysis of the construction of a reinforced-concrete free-form roof formwork and the development of a unit-construction method. *Journal of Building Engineering* 34. <https://doi.org/10.1016/j.jobe.2020.101924>
- Hyun, H., Park, M., Lee, D., Lee, J., 2021. *Tower crane* location optimization for heavy unit lifting in high-rise modular construction. *Buildings* 11. <https://doi.org/10.3390/buildings11030121>
- Indarto, H., 2009. Analisis Struktur-III. Jurusan Teknik Sipil Universitas Diponegoro.
- Jacobs, L.D., Kosbab, B.D., Leon, R.T., DesRoches, R., 2011. Seismic behavior of a jumbo container crane including uplift. *Earthquake Spectra* 27, 745–773. <https://doi.org/10.1193/1.3610238>
- Jin, L., Liu, H., Zheng, X., Chen, S., 2020. Exploring the Impact of Wind Loads on *Tower crane* Operation. *Math Probl Eng* 2020. <https://doi.org/10.1155/2020/2807438>

- Kallio, H., Pietilä, A.M., Johnson, M., Kangasniemi, M., 2016. Systematic methodological review: developing a framework for a qualitative semi-structured interview guide. *J Adv Nurs*. <https://doi.org/10.1111/jan.13031>
- Khosrowshahi, F., Arayici, Y., 2012. Roadmap for implementation of BIM in the UK construction industry. *Engineering, Construction and Architectural Management*. <https://doi.org/10.1108/09699981211277531>
- Kubota, Y., 2010. Systematization of structures and forms of *Truss* systems, dalam: 34TH INTERNATIONAL SYMPOSIUM ON BRIDGE AND STRUCTURAL ENGINEERING. <https://doi.org/10.2749/222137810796024141>
- Kusnan, I., 2017. ANALISIS PRODUKTIVITAS *TOWER CRANE* PADA PROYEK PEMBANGUNAN GEDUNG TUNJUNGAN PLAZA 6 SURABAYA.
- Kwon, J., Huh, Y., 2021. 초고층 공동주택 RC 공사의 생산성 및 타워크레인 가동율 분석 Productivity Analysis of Reinforced Concrete Works and *Tower crane* Working Ratio for High-rise Apartment Buildings. <https://doi.org/10.6106/KJCEM.2021.22.1.055>
- Lan, T.T., 1999. *Space Frame* Structures, dalam: Chen Wai-Fah (Ed.), *Structural Engineering Handbook*. CRC Press LLC.
- Liu, C., Zhang, F., Han, X., Ye, H., Shi, Z., Zhang, J., Wang, T., She, J., Zhang, T., 2022. Intelligent Optimization of *Tower crane* Location and Layout Based on Firefly Algorithm. *Comput Intell Neurosci* 2022. <https://doi.org/10.1155/2022/6810649>
- Maddeppungeng, A., Asyiah, S., Intari, D.E., Setiawati, D.N., Ujianto, R., Gibran, A., 2024. *Tower crane* Productivity Analysis On Apartment Development Projects Article Info ABSTRACT. *Jurnal Teknik Sipil* 13. <https://doi.org/10.36055/fondasi>
- Mahardhika, S., Nursin, A., 2022. OPTIMALISASI LETAK *TOWER CRANE* TERHADAP WAKTU SIKLUS PADA PROYEK Y. *Construction and Material Journal*.
- Mal Kothari, K., Samba, V., Udayakumar, R.D., Karthikeyan, R., 2019. Modelling and evolution of designing the hydraulic circuit for a cable pulling *winch* machine, dalam: *Journal of Physics: Conference Series*. Institute of Physics Publishing. <https://doi.org/10.1088/1742-6596/1276/1/012027>
- Manrique, A., Saman, J., Rodriguez, S., Melendez, K., 2020. Productivity improvement of *tower crane* in tall buildings, dalam: *IOP Conference Series: Materials Science and Engineering*. Institute of Physics Publishing. <https://doi.org/10.1088/1757-899X/758/1/012042>
- Marzouk, M., Abubakr, A., 2016. Decision support for *tower crane* selection with building information models and genetic algorithms. *Autom Constr* 61, 1–15. <https://doi.org/10.1016/j.autcon.2015.09.008>
- Nadar, M.A., Awakian, C.A., Khoury, H.K., 2013. An intelligent system for monitoring *tower cranes* on construction sites, dalam: ISARC 2013 - 30th International Symposium on Automation and Robotics in Construction and Mining, Held in Conjunction with the 23rd World Mining Congress. Canadian Institute of Mining, Metallurgy and Petroleum, hlm. 1239–1246. <https://doi.org/10.22260/isarc2013/0139>
- Naveen Kumar, P., Prakash, R., Sangeetha, P., 2020. Analytical Study on the Behaviour of Composite Space *Truss* Structures with Openings in a Concrete Slab. *Civil and Environmental Engineering Reports* 30, 265–280. <https://doi.org/10.2478/ceer-2020-0044>
- Nugroho, A.R., Nugraheni, Fi., 2019. Analisis Pemilihan Alat Angkut Rangka Atap Baja Antara *Tower crane* Dan Materials Hoist Pada Pekerjaan Atap Di Proyek

Open AI, 2022. Whisper.

Peng, L., Chua, D.K.H., 2017. Decision Support for *Mobile crane* Lifting Plan with Building Information Modelling (BIM), dalam: *Procedia Engineering*. Elsevier Ltd, hlm. 563–570. <https://doi.org/10.1016/j.proeng.2017.03.154>

Petroutsatou, K., Kantilierakis, D., 2023. Productivity Analysis and Associated Risks in Steel Structures. *Buildings* 13. <https://doi.org/10.3390/buildings13040905>

Peurifoy, R.L., Oberlender, C.J., Schexnayder, J., Shapira, A., 2018. *Construction planning, equipment, and methods*, 9th ed. McGraw-Hill.

Rabionet, S.E., 2011. How I learned to design and conduct semi-structured interviews: An ongoing and continuous journey. *Qualitative Report* 16, 563–566. <https://doi.org/10.46743/2160-3715/2011.1070>

Radford, A., Kim, J.W., Xu, T., Brockman, G., Mcleavey, C., Sutskever, I., 2022. Robust Speech Recognition via Large-Scale Weak Supervision.

Rahmania, A., Ischak, M., Marlina, E., 2020. Struktur *Space Frame* sebagai Komponen Pembentuk Estetika pada Perancangan Gedung Pusat Seni Budaya Jawa Barat di Bandung *Space Frame* Structure as an Aesthetic Component in the Design of Art And Cultural Center in Bandung West Java 18, 60–68.

Randolph Thomas, B.H., Maloney, W.F., Malcolm Horner, R.W., Smith, G.R., Handa, V.K., Sanders, S.R., 1990. MODELING CONSTRUCTION LABOR PRODUCTIVITY.

Rinke, M., 2016. Formal and structural multiplicity in early *Truss* design. *Structures and Architecture - Proceedings of the 3rd International Conference on Structures and Architecture*.

Rostiyanti, S.F., 2008. *Alat Berat untuk Proyek Konstruksi*, 2 ed. PT Rineka Cipta, Jakarta.

Sangeetha, P., Senthil, R., Naveen Kumar, P., 2018. Influence of design parameters on composite and noncomposite space *Truss* structure analysed using ANSYS, dalam: *Lecture Notes in Mechanical Engineering*. Pleiades journals, hlm. 111–121. https://doi.org/10.1007/978-981-13-1724-8_11

Seong, T.H., Ngian, S.P., Zin, R.M., 2023. Economical Aspect of *Truss* Design Through Geometry Configuration. *Journal of Advanced Research in Applied Sciences and Engineering Technology* 30, 105–114. <https://doi.org/10.37934/araset.30.1.105114>

Shapira, A., Asce, M., Lucko, G., Asce, A.M., Schexnayder, C.J., Asce, F., 2007. *Cranes for Building Construction Projects*. <https://doi.org/10.1061/ASCE0733-93642007133:9690>

Shehata, M., Hafez, S.M., El-Lakany, A., Abo El-Magd, Y., 2007. Establishing the optimum location of a single *tower crane* using a smart mathematical model, *Alexandria Engineering Journal*.

Sinaga, F.Z., Solikin, M., 2023. Produktivitas Alat Berat *Tower crane* Untuk Pengecoran Pada Pembangunan Gedung (Studi Kasus Proyek Pembangunan Gedung XYZ di Jl. Pemuda). *Prosiding Seminar Nasional Teknik Sipil*.

Subagyo, G.W., Tjondro, R., Jaya, U.P., 2021. ANALISIS PRODUKTIVITAS *TOWER CRANE* (Studi Kasus Proyek Bintaro Jaya Xchange Tahap II, Tangerang Selatan). *Construction Engineering and Sustainable Development*.

Tang, Y., Wu, H., Liu, H., 2015. The wireless monitoring system of *tower cranes* based on MCP2515/CAN bus.



- Tiainen, T., Mela, K., Jokinen, T., Heinisuo, M., 2017. The effect of steel grade on weight and cost of warren-type welded tubular *Trusses*. *Proceedings of the Institution of Civil Engineers: Structures and Buildings* 170, 855–873. <https://doi.org/10.1680/jstbu.16.00112>
- Umasugi, A., Sari, S.N., Maulana, R., 2025. Crawler Crane Productivity Analysis on *Erection* Girder Work for Toll Road Construction Solo - Yogyakarta. *G-Tech: Jurnal Teknologi Terapan* 9, 211–219. <https://doi.org/10.70609/gtech.v9i1.6034>
- Vayas, I., Ermopoulos, J., Ioannidis, G., 2019. Fabrication and *erection*, dalam: *Springer Tracts in Civil Engineering*. Springer, hlm. 337–400. https://doi.org/10.1007/978-3-319-95474-5_8
- Weng, Z., Cao, X., Wang, X., Wang, D., 2020. A Path Planning Method For Overhead Crane Based on Spatial Stratification, dalam: *The 8th International Conference on Control, Mechatronics and Automation*. IEEE.
- Xu, J., Zhu, Y., Wang, Q., Xu, Y., Chen, R., Ma, R., 2023. Flexural behavior of open-web composite slab with I-shaped steel bottom chord and vertical flat webs. *Structures* 58. <https://doi.org/10.1016/j.istruc.2023.105434>
- Yates, J.K., 2014. *Productivity Improvement Construction Engineering and for Implementing Programs That Save Money and Time*. ASCE Press, Virginia.
- Yazdi, A.J., Maghrebi, M., Bolouri Bazaz, J., 2018. Optimizing the lift process in high-rise construction projects. <https://doi.org/10.22060/ceej.2018.13868.5496>