

International Journal of Advanced Research in Science, Communication and Technology (IJARSCT)

Volume 3, Issue 2, March 2023

## **Smart Grid-A Review Paper**

Gauri Sanjay Ujawane<sup>1</sup>, Radhika Abhay Gimonkar<sup>2</sup>, Sneha Shrikrushna Nawalkar<sup>3</sup>, Juhi Liladhar Dawale<sup>4</sup>, Keya Shailendra Gawai<sup>5</sup>, Rohit Khandu Jarande<sup>6</sup> Second Year Engineering Students, Department of Electrical Engineering

Jawaharlal Darda Institute of Engineering and Technology Yavatmal, Maharashtra, India<sup>1,2,3,4,5,6</sup>

**Abstract:** Right a vertically integrated utility is one that has been managed by a centralized body since the commencement of the production of electrical energy. In order to address the needs of electricity consumers in the twenty-first century, a new technology known as "Smart Grid" has been devised. Decentralization of industries has been expanding day by day. In this essay, we will examine the meaning of the term "smart grid," its advantages, as well as the various technologies used in it. The traditional electrical power system has been replaced by the smart grid thanks to its different technologies. In the past, when smart grid technology wasn't available, we had to deal with a lot of power outage issues, such as substation or generating unit failure. In order to achieve energy efficiency, the smart grid employs smart grid as a means of delivering electricity at the lowest cost and highest quality. We'll talk more about the specifics of smart grid technologies later.

Keywords: Smart Grid; SCADA; AMR; load forecasting

## REFERENCES

- [1]. Artech House, the Advanced Smart Grid: Edge Power Driving Sustainability. June 2011
- [2]. The Department of Energy, "The Smart Grid: An Introduction," available at energy.gov/oe/downloads/smartgrid-introduction.
- [3]. "A Brief Analysis on Differences in Risk Assessment between Smart Grid and Traditional Knowledge Acquisition and Modeling," by
- [4]. J.Z. Hui Hou, Yongchuan Zhang, and Xiongkai Hen (KAM), The United States Agency for International Development, "Smart Grid Vision For India," March 2010.
- [5]. Pengpeng Lu, J. Zhao, J. Yao, and S. Yang, "A Decentralized Approach for Frequency Control and Economic Dispatch in Smart Grids," IEEE Journal on Emerging and Selected Topics in Circuits and Systems, 2017, vol. 7, issue 3, pp. 447-458..
- [6]. Sunil Luthra, Sanjay Kumar, Ravinder Kharb, Md. Fahim Ansari, and S. L. Shimmi. "Adoption of smart grid technologies: An examination of interactions among barriers," Renewable and Sustainable Energy Reviews, vol. 33, no. 5, may 2014, pp. 554-565. R.
- [7]. E. Brown. Smart grid's effects on the architecture of the distribution system. Conversion and Delivery of Electrical Energy in the 21st Century, IEEE Power and Energy Society General Meeting, pages 1-4, 2008.
- [8]. P. Siano, A. Piccolo, C. N. Hadjicostis, and V. Calderaro. Petri Net modelling is used for smart grid failure identification. IEEE Transcations on Industrial Electronics, 2011, Vol 58, Issue 10, pp. 4613-4623.
- [9]. Miss. Kamble Sunayana Nivrutti, Prof. Gund V. D., et al, "Multimodal Biometrics Authentication System Using Fusion Of Fingerprint And Iris", International Journal of Trends in Scientific research and Development (IJTSRD), Sep-Oct 2018, Vol 2, Issue 6, pp 1282-1286