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Advanced Materials Science Research

Futuristic perspective of industry 4.0 with smart materials

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Biography

Nivetha Martin has completed her PhD at the age of 28 years from bharathi-dasan university, trichy, Tamil Nadu. She has published three books and more than 100 articles in reputed journals and has been serving asw an editorial board member of peer-reviewed and renowned journals. The thurst areas of research are decision-making, inventory modeling, fuzzy cognitive maps.

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The Industrial sectors are joining hands with technology and marching ahead to create a smart world. The collaboration of the features of technology with the manufacturing firms is progressing in high fashion. The production processes are accelerated by the material input of various kinds and certainly, the smart materials occupy the prime position. The functional materials of various kinds are characterized by the attributes of property changeability, the competence of energy swapping, disjunct dimension or position and mutability. Industry 4.0 is embedded with various technology and it primarily focusses on a smart production system. It is the need of the production sectors get adopted into such a kind of digital ecosystem in this age of information and technology. The production environment must be circumscribed by the elements of technology and smart materials in the coming days to withstand the exponentially growing demands of the end customers. The smart materials are explored and the intensive investigation is undertaken by the researchers to make optimal decisions on the selection of suitable smart materials for making smart production system. Decision-making is a multidisciplinary area that comprises of mathematical methods and models to arrive at feasible decisions. Smart material selection plays a vital role in production systems as it is the initial step in the input phase. The quality of the products and the time efficiency are the outstanding objectives of production systems of diverse nature. It is very essential to design suitable multi criteria and multi-objective decision – making model for material selection to ease the process of smart production and this research work is a step towards it.

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