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OPPORTUNITIES TO USE IMAGE PROCESSING TECHNOLOGY IN QUALITY- BASED PRACTICES

Abstract: *The rapid development of technology in the present day has increased the need for automation systems. The principal philosophy in developed systems is to allow for detecting the intended matter shortly. To achieve this, technologies are developed by resting on quality-based matters. One of them is image processing technology. It is understood in studies we have conducted on domestic and foreign literatures that image processing technology has become increasingly widespread in different sectors and made extremely big positive contributions to quality practices. Its basis is that image processing technology practices produce solutions widespread in every area depending on computer and offer them to the benefit of mankind.*

In image processing particularly in recent years, it has been attempted to achieve operations that human visual system performs in computer environment. Image processing methods developed for this purpose involve many operations such as obtaining image, its digitization, segmentation, improvement, classification, recording and re-calling. In the present day, many industries utilize progresses enabled in automation. But, product supervision remains dependent to individual to a great extent in operations such as identifying different products in the final stage of production, separating them into different groups or eliminating the defective ones. In recent studies, ensuring product surfaces to be classified according to their defect types by investigating comes to the forefront. To this end; cracks, rifts, protuberances, holes, cavities, sways and similar defect structures formed on product surfaces during manufacture are tried to be caught, classification of products by designated criteria is carried out. But, it is also known that all these operations are performed in the form that a person trained for them sorts out the defective ones by standing over production line, looking at constantly flowing product surfaces under an intense light and marks products to separate them into different classes by their defect level in many industrial processes in the present day. In this paper, the rationale and process of image processing technology will be explained, application of this method on quality-based

classification of machine manufacturing will be explained on examples. How this application will be performed in machine manufacturing will be put forward with details.