

FABRICATION OF WALL PAINTING ROBOT

ABSTRACT:

In today's world, painting the walls is certainly a time consuming and messy job to do. The required skilled labor is expensive, especially in the urban areas. Moreover, most of the times the owners are not satisfied with the work done by the masons (work done is of inferior quality). Also, some areas such as the outer wall of a high rise building are too risky for the labor to work on. With many new residential areas coming up in tier-1 and tier-2 cities, there is already a lot of work to do in building up the whole area. With autonomous painting, there can be a huge reduction in the time to market flats, and wastage of paint can be reduced.

The current competition they face is from the manual wall painters. Their product has a low maintenance cost, thus providing long-term monetary benefits to the customers. Also, their product will provide a better finished paint job with lower paint wastage. It will increase the aesthetic value of the building and hence will affect the prices of the flat or offices positively.

Wall painting, conventionally, has been carried out by human hands on scaffolds provisionally built around a subject wall. This, however, not only is a kind of work performed on dangerous elevated spots and in unclean environment but also requires extra work to take down the scaffolds, thus often making it difficult to shorten a construction term or to reduce cost. There were some robots available on the market which were, however, able to perform painting in a single color. Few of them had wide applicability and their use was rather limited depending on a structure applied. The actual targets for development of the wall painting robot, in order to solve the aforementioned situation, were set as follows:

- To improve safety by eliminating works on scaffolds.

- To make machine structure simple to enable easy mounting.
- To perform not only painting in a single color but also drawing in multiple colors.
- To be usable not only on external walls of structures but also in various other

ADVANTAGES:

- Accuracy
- Less Waste
- Efficiency
- Improved Quality
- Increased Speed
- Improved Worker Safety

Robots conserve materials - offering **paint savings** of 15-30%. They don't overspray, nor do they make mistakes, so parts don't have to be constantly reworked or scrapped. At the same time, industrial painting robots take up less room, allowing expensive painting booths to be condensed.

CONCLUSION:

Trend of structures seems to be shifting from the age of mass supply to the age of stock adjustment, where the renewal market serving for maintenance improvement in function of existing structures is expected to expand in future. Wall-Surface Operation Robot aims to automate and improve in efficiency a series of renewal works by adding, through changing of an attachment, new functions for cleaning, tile separation sensing and repair work to the original functions of picture painting in a single and multiple colors. In future, we would like to expand applications of Wall-Surface Operation Robot, not limiting to outer walls of a structure, even to civil structures like dams and bridge piers.

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