

Automation in Construction

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Abstract: *Construction industry is the oldest it contributes a lot to the economy of the nations. The construction works have developed with modern machines. For good quality work, e.g. - under the supervision of experts. Good equipment, machinery, etc. Details of actual cost of construction works. The importance of construction automation is evolving Need of construction technology in India like other countries is example – Equipment, machinery, robots, etc. are required. For good quality of work, Robots and automation machines should be used in the construction business. Some obstacles How these barriers are reduced to implementation at the construction site is discussed the significance of construction Automation has developed quickly in evolved nations. Automation is a great step towards AI controlled factories and less man-made mistakes. Word “automation” may put images of robots taking over jobs, but in reality is much more opposite. In construction, for example automation is less likely to decreased employment opportunities than it is to increase productivity.*

Keywords: Automation, Construction Industry, Safety, On-Site Construction

I. INTRODUCTION

The construction industry is one of the underdeveloped sectors, despite this, construction work is the most and this is a huge contribution to the country economy. Importance of construction automation Rapid growth occurred in developed countries. Developed nations at the forefront of automation in every field such as automobile industry, food industry, machinery, etc. but this is the lowest in the manufacturing sector as compared to other industrial sectors. This is a serious issue of the Indian construction industry sector. For quality work skilled workers, techniques, equipment etc. The quality of development works is poor. The biggest impact of this is on the construction work. Need more skilled workers, update Equipment, software, which will save time and increase construction.

Automation technologies Innovative work focuses on the area and describes the construction work the construction process signal leads to continuous work and gives smooth and uninterrupted work throughout the year. Is developing rapidly. Work with low risk and good quality in construction and Business takes place. Automation technologies give less labour dependency leads to higher production and higher productivity and Fewer human errors, higher work efficiency, etc. bring every single undertaking. For ideal values.

II. LITERATURE REVIEW

Automation in Construction

Construction Automation Research area, industry concerns and Suggestions for advancement Automation in Construction.

Siti Syariazulfa Kamaruddin, Fadhil Mohammad, Rohana Mahbub-

The major concern to the Construction industry is the decreasing Quality and productivity of end products, lack of labour. This will also ensure the harmony between the environment and energy management with Productivity enhancement for better quality products that could lead to better quality of life for the end users.

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This could improve the industry in terms of productivity and quality. This will also ensure the harmony between the environment and energy management with productivity enhancement for better quality products that could lead to better quality of life for the end users

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The second section consists of 12 chapters and is dedicated to the technologies and new developments employed to automate processes in the construction industry. Among these we have examples of ICT Technologies used for purposes such as construction Visualization systems, added value management systems, Construction materials and elements tracking using Multiple IDs devices. This section also deals with Sensorial Systems and software used in the construction to improve the performances of machines such as cranes, and in Improving Human-Machine Interfaces.

III. BENEFITS OF AUTOMATION TECHNOLOGY

- Lower operating costs.
- Improved worker safety.
- Reduced factory lead times.
- Faster ROI.
- Ability to be more competitive.
- Increased production output.
- Consistent and improved part production and quality.
- Smaller environmental footprint.

3.1 Lower Operating Cost

Robots can do a work of three to five people, depending on the task. In addition to savings on the cost of labour, energy savings can be due to lower heating requirements in automated operations. Robots streamline processes and more part accuracy, which means minimal material waste for your operation.

3.2 Improved Worker Safety

Automated cells remove workers from dangerous tasks and safeguarding worker against the hazards of a factory environment.

3.3 Reduced Factory Lead Times

Automation leads to process in-house, improve process control and reduce lead times compared to out sourcing or going overseas.

3.4 Faster ROI

Automation solutions are totally on your unique needs and goals and pay for themselves quickly due to lower operating costs, reduced lead times, increased output time and more.

3.5 Ability to be More Competitive

Automated cells allow you to lesser down cycle times and cost-per-piece while improving quality. This allows you to better compete on a global scale and the flexibility of robots enables you to retool a cell to exceed the capabilities of your competition.

3.6 Increased Production Output

An automatic robot has the ability to work at a constant speed, unattended, 24/7. That means got the potential to produce more product. New products can be more quickly introduced into the production process and new product programming can be done offline with no disturbance to existing processes.

3.7 Consistent and Improved Part Production and Quality

Automated cells typically can perform the manufacturing process with lesser variability than human workers. This leads to greater control and consistency of product quality.

**3.8 Smaller Environmental Footprint**

By streamlining equipment and processes, reducing scrap and using lesser space, automation uses small amount of energy. Lesser down your environmental footprint can save real money.

IV. OBJECTIVE

Automation increases the productivity of the construction project, reduces the duration and laborious work, and the construction safety, and increases the quality of work as compared to unskilled workers.

- Automatic materials handling.
- Automatic drilling of holes and recognition of material characteristics.
- More accurate, automated movement and positioning of construction equipment.
- Automatic mechanical construction.
- Remote supervision from any distant locations.
- Intelligent and integrated control over all construction processes to optimize resource value.

V. CONCLUSION

We learned that automation technology is a good way to increase the manufacturing technology and reduce the manpower, its use will give good speed to the construction work and speed up the development. This will reduce the wastage of material in the construction work and will also reduce the time taken in the construction work, every work will be completed with its completeness. This research it can be summarize that barriers will Minimized by developing of technologies that are easier to use and understood and training program for workers and

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