Case Study

COBOTS & THEIR APPLICATION WITHIN INDUSTRY 4.0

Keywords: *Cobots, Automation, Engineering Digitisation*

Background to Case Study

Many companies are using Cobots to facilitate their automation implementation within their system requirements. Despite that these systems would entail a certain element of capital expenditure, especially for small to medium sized organisations, the returns of implementing such systems puts the SME in an advanced position towards the implementation of Industry 4.0.

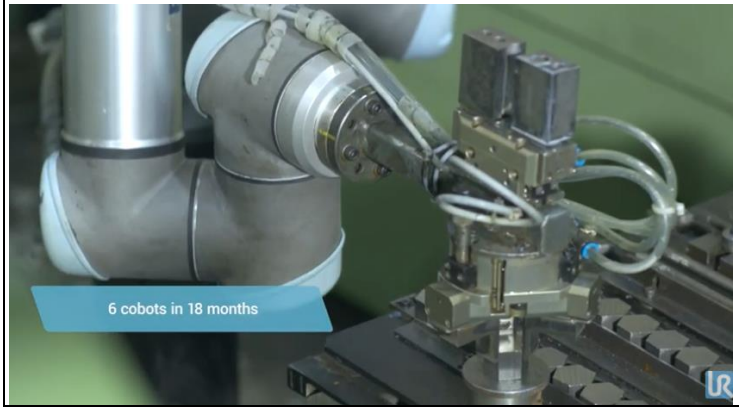
Cobots are also called people-focused robots and can help people to make and refine the work they do in an easier manner. Dirty, unsafe, boring, monotonous or repetitive tasks can be performed by the robot so that employees can concentrate on other tasks.

Introduction to the Case Study and it's growth within Industry 4.0.

New Engineering Works was a small company, based in India, looking into becoming a world class manufacturer. In view of this, looking at the ever growing industry, they looked into purchasing robots rather than going for increased number of CNC machines, to speed up processes and make their systems more efficient. The current CNC machines can then be operated 24/7. In this way the cost per component is significantly decreased.

The Case Study and Industry 4.0 Elements: A Pictorial Overview

Automation supports personnel by taking over simple and repetitive movements/tasks which would alternatively utilise resources. As a result, personnel can focus more on value-adding tasks.



The use of Universal Robots within New Engineering Works allowed the SME to contribute more to value adding tasks rather the repetitive tasks which were by then taken over by the cobots which were implemented. This in turn supported New Engineering Works to meet their production demands.

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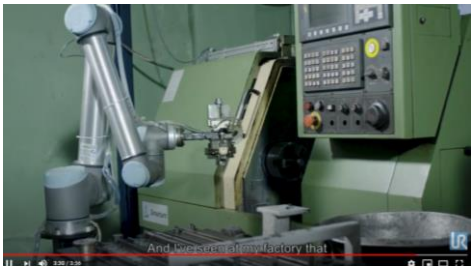
THE ELEMENT – AUTOMATION APPLICATION FOR INDUSTRY 4.0

The Element Explored within Industry 4.0 Application.  	*The use of Universal Robots within New Engineering Works heavily supported the loading and unloading of parts within the CNC machine. This thereby heavily contributed to reduced handling in the production facility.* *The use of Universal Robots allowed for New Engineering Works to assign their employees on higher skill jobs, thereby increasing their knowledge portfolio and promoting employee retention due to increased employee motivation and opportunities within the industry. Quality and Inspection are now being done internally by trained employees as a result of increased automation within the SME.* *New Engineering Works proclaim that cobots working side by side with the employees on the shop floor has drastically improved their modus operandi and opened new business opportunities, up to an extent of 40% growth.* *Despite the capital cost of the initial cobot investment, the comparative cost analysis provides the reassurance of feasibility of its application.* *AS a result of this application, material supply and transfer can be automatically managed and controlled. The repeatability of such systems allows for improved planning since timing for execution is more consistent and repeatable. Automation of such processes would also allow for remote control for selected processes where personnel intervention is not required.*
Application Target Audience	*The results of the case-study are intended for use by SMEs and entrepreneur subjects.*
Resources Used:	*Case Study implementation available here* *Cobots Application within SME*
Further Reading:	*https://cobotsguide.com/*

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