

# ACHIEVING OPTIMUM EFFICIENCY

The article details on the Ruby on Rails framework that can develop and build a solution within time constraints, and has the ability to quickly adapt to changing production processes and technologies



Gautam Rege  
 Director  
 Josh Software  
 gautam@joshsoftware.com

Globalisation has enabled companies to set up manufacturing units around the world to aid in effective distribution, cost advantages, optimum resource allocation, and most importantly, increased production. The existence of manufacturing set-ups across the world has made it even more difficult to effectively administer their functioning. With reduced infrastructure costs due to cloud computing technology and penetration of high-speed broadband internet increasing every year, using web applications to monitor and oversee manufacturing operations spanning different locations can help an organisation realise its full production potential. There has been great interest in using manufacturing operations management solutions at the production level of many organisations. Organisations have looked at building web applications for their manufacturing set ups for enterprise resource planning (ERP), supply chain management, and quality control.

## Choosing the right framework

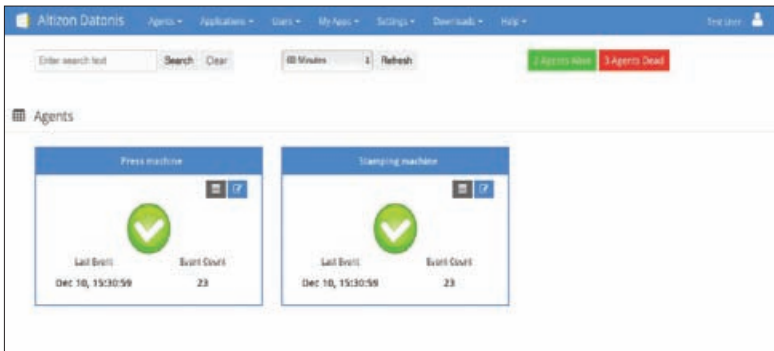
Due to the ever-evolving manufacturing processes and

technologies, it is important to choose the right framework to build your applications in. A framework that can develop and build a solution within time constraints, and more importantly, a framework that has the ability to quickly adapt to changing production processes and technology. Supported by the fast growing adoption of the framework in building web solutions, Ruby on Rails designed to build an online application for manufacturing set ups and support organisations across ERP, supply chain, and quality control functions. Manufacturing companies constantly strive to get the most from their production set ups, and the Ruby on Rails framework can aid in reaching this level of optimisation.

It allows organisations to get the right boost to set up online applications for large-scale ERP solutions; furthermore, this solution can be built in the Ruby on Rails framework with a quick turnaround time as compared to other web frameworks.

## Need to be agile

As ERP frameworks give an integrated view of core



The image indicates that 3 agents are down and 2 agents are alive streaming data from machines connected to them. The "Last Event" indicates the last data packet received and "Event Count" indicates the number of events received in the last hour

manufacturing and business processes, it is important for the ERP solution to be agile as organisations evolve or change their production process, technologies, and resources. ERP solutions built in the Ruby on Rails framework can allow for a quick adaptability to account for any changes in the production process. Being an open source and an economical option, this framework can be suited for SMEs and emerging manufacturing companies as well. A robust ERP solution can also help a company monitor their production and through the use of web solutions, put the organisation in a better position to make quick changes and fill any gaps or inefficiencies within the system and processes.

Apart from enterprise resource planning, efficient management of the supply chain is the key to generate the full potential of a manufacturing set up. The supply chain needs to be monitored and controlled with care as its mismanagement can lead to a severe drop in the production potential of a manufacturing unit; furthermore, the supply chain is one of the most complex aspects to a manufacturing process due to the need of customisation of each step from procurement to inventory management to consumption. The ability of Rails to offer a quicker and cost-effective customisation and maintenance makes its selection to build a supply chain solution a necessity. A web solution for supply chain management can also support in remote monitoring of several manufacturing set-ups from a distant location. This would prove to be great advantage for companies having several units spread across different geographies. The monitoring and data notifications can be sent to any communication device for instantaneous eradication of inadequacies within the supply chain. In addition, authorisation and verification of changes in the supply chain can be now reduced to minutes due to the real-time monitoring the web solution provides. A well-oiled supply chain can lead to great manufacturing process, and Rails can help facilitate this level of proficiency.

Planning resources and managing supply is important, but the quality of your product gives your business a sustained long-term value. A set of procedures, policies, and processes that ensure the quality of a manufactured product is, today,

leading to the success of businesses globally. Along with automation, system and process quality is becoming increasingly important. Certifications such as Six Sigma and ISO are becoming pre-requisites in the business environment. However, rather than just being a paper certification, most SMEs and even larger organisations are now looking at improving their processing by going paperless. Rails applications can provide the perfect leverage to sanction such systems because of its flexibility, faster development and lower costs. Besides helping to improve the manufacturing process, an improvement in quality output will lead to an improved market share, increase in sales growth and competitive advantage. Due to the cost efficiency of building solutions in the Ruby framework, quality assurance web solutions built in Ruby framework can be availed by a variety of manufacturing companies regardless of their size.

### Cost-effective solution

With every manufacturing company aspiring for the highest levels of efficiency and productivity, Ruby on Rails can be a good choice to build web solutions to help businesses generate their full potential. The returns on using the Rails framework can be identified across a variety of parameters. The most apparent advantage of using the Rails framework is the time the solutions can delivered in, which in some cases, can be within a quarter of the time taken using other frameworks. Changes to the online systems are fast and easy, the maintenance of these online systems is trivial. Rails integrate with state of the art databases that are meant for scale and performance. Rails is an open-source framework (hence free) and does not require large heavy duty servers but can be hosted in the cloud or on standard commodity servers, it's a huge cost and time saver. Additionally, the language framework provides a cost-effective method to build solutions around key manufacturing aspects such as resource planning, supply management, and perhaps the most important in today's competitive scenario, quality assurance. □

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