

Galfar Engineering & Contracting SAOG

Improving Labour Productivity in Construction



Galfar Engineering & Contracting SAOG (Galfar) is Oman's largest construction company with EPC capabilities in the Oil & Gas, Roads & Bridges and Civil & Utilities sectors. As well as operating in Oman, the company has undertaken projects in other GCC countries as well as India. Founded in 1972, Galfar has grown to be one of the largest construction companies in the Middle East with revenues exceeding \$1bn. Renoir was engaged by Galfar to drive urgently needed improvements at a Sewerage Treatment Plant (STP) project in Darsait, a suburb of Muscat, Oman.

"The results generated through implementing the new methodologies and working practices significantly exceeded the commitment, resulting in 50%-62% increase in labour productivity and 3-4 times higher output in major commodities. Additionally, a control system was introduced to provide a more systematic reporting of delays and lost time and site management"

R.C. Verma
Executive VP, EPC

Key Results

Improved weekly and daily planning to quantities and man hours

Significant improvements to site discipline

Significant improvements to site supervision

Measurement of true workforce productivity

Direct labour productivity up more than 60%

Key commodity production up 400%

PROJECT APPROACH

Renoir was engaged in a twelve-week Rapid Intervention Program (RIP) to ensure that workers attained a more productive state as quickly as possible.

The project commenced with a week in-depth productivity study and site assessment to better understand the challenges and develop the solutions. This phase was followed by an eleven-week implementation stage to apply the solutions.

Galfar provided 3 full time people to a task force enabled better buy-in, to help overcome the challenges faced, and for post project sustainability and continuous improvement.

Project governance was structured such that all issues and concerns were reviewed in a weekly steering committee consisting of the CEO, President of Galfar, the EVP EPC and relevant members of the senior management team. For rapid intervention programs, the attention of the most senior managers in the company is crucial for success.

IMPLEMENTATION

The goal of project was to improve labour productivity. Some of the key tasks included:

- Improved project planning from the pre-existing time bound tasks to daily quantity and man hour targets
- Improved task scoping to ensure that no job commences without adequate preparation
- Front line supervisor level job cards, with 2 hourly production targets for all teams
- Significant improvements to worker movements control, including bus timetables, site access restrictions and pass cards
- Extensive on the job coaching and continuous shop floor productivity challenges with all front line supervision.
- Improvements to the quality control process to reduce the incidence of delays from incomplete work inspection and inadequate work execution.
- Continuous observation based productivity measurements called ratio delays.

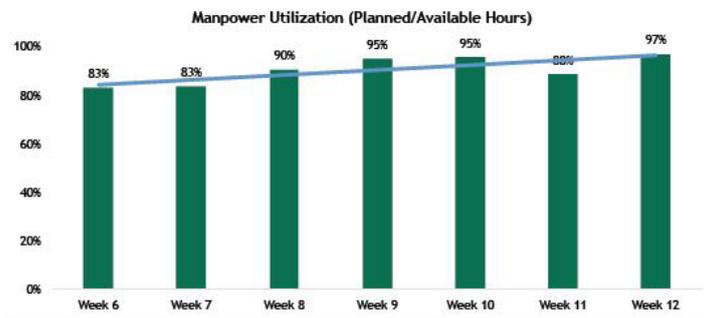
World Leaders in Sustainable Change

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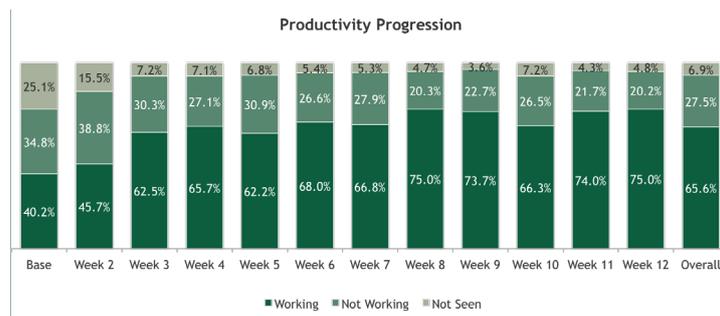
- Set up of key commodity production measurements.
- Set up of progress tracking on ancillary concern areas, such as technical delays and materials supply.
- Daily supervisory performance reviews and weekly site wide reviews.
- Coaching of middle management in more effective root cause analysis and communication

PROJECT RESULTS

There were many measures of success. One of the early areas of focus was gross work force utilization, measured as planned hours divided by available (salaried) hours. At the start of the program almost 20% of the workforce was effectively not being planned for. The purpose of this measurement was to ensure that the site plans for productivity.

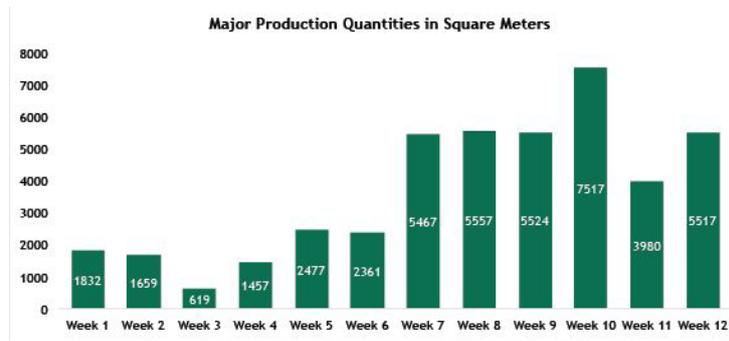


The main focus of the program was to increase direct and indirect workforce productivity; this was measured by on-going full time observations called 'ratio delays'. Unlike production rate based measurement (which give a performance versus a benchmark that may not necessarily be relevant to the job), the ratio delays indicate exactly the true level of activity at the work front. During the course of the rapid intervention, the measured productivity improved by more than 60%.



In addition to productivity improvements, there was an urgent need to improve production on all work fronts. For the major relevant commodities at that stage of the project, such as backfilling, scaffolding, blockwork, plastering, and painting, special emphasis was placed (extending into supply chain issues for example). This focus, along with the improved productivity, resulted in large gains in production. The below chart shows the improvement in performance for quantities measured in square meters.

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In summary, in the words of the CEO, Mr Hans Earlings, “The Darsait STP Project has in the space of 3 months been transformed from one of the worst productivity sites in the company to the best.”

THE RENOIR GROUP

Renoir Consulting is a world leader in sustainable, implemented change. Founded in 1994, Renoir has offices located in North and South America, UK, Europe, Turkey, Middle East, Southern Africa, India, Pakistan, China, South East Asia and Australasia. With over 350 fully employed and highly trained consultants, their work across a wide range of industry sectors gives them a broader perspective of the issues facing your business, allowing them to be sensitive to your unique challenges, culture and specific business issues. This cross-pollination ensures truly effective, rapid and sustainable solutions.

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