

PORR Group (Doha Metro)

Productivity Improvement Through Rapid Intervention



PORR Group is the biggest domestic building contractor in Austria. It has operations in 11 countries, over 13,000 employees and revenues of ca. €3.4b.

In June 2013, the joint venture PORR-SBG-HBK was commissioned with the construction of the Green Line Metro in Doha, Qatar with a value of approximately €1.9b. Since this award, PORR was also granted the Gold Line, and is involved in the construction of the Red Line.

“A very creditable performance, within short timescales, and in such a challenging and defensive work environment.”

**Markus Halper,
Project Manager**

Key Results

13.5% reduction in cost per unit produced realized during the duration of project

Total of 20.7% efficiency improvement identified and agreed to be implemented in the following 3 months

10.5% realized reduction in direct manpower

Allowance for 11.1% increase in production without increasing manpower, as per production plan in the following 3 months

PROJECT GENESIS

In November 2016 Renoir was appointed to perform a 12-week rapid intervention project with the objective of increasing the labour productivity on the fabrication of the precast components (referred to as slabs) where the track will be installed. In order to achieve that goal the following steps were carried out:

- A review of the current manufacturing flow from which was developed a best sequence of work.
- Standard times were established for every step through the process.
- Bottlenecks were investigated, and assessments were made as to how performance/output could be improved.
- Crewing levels of the sub-contracted labour (in excess of 350 people) were reviewed, as were the management structure and spans of control.

PROJECT APPROACH

This assignment followed Renoir's Focus Process® where 4 weeks were dedicated to the identification of opportunities and the practicalities and benefits agreed with local management:

- A significant number of diagnostic studies were conducted, related to work content, ratio delays, Day in the Life Of (DILO) and cycle time studies for all the steps involved in producing the precast slabs.
- In parallel to this, a baseline of historical operating levels was established and agreed, defining hours spent per slab fabricated. This then formed the method to track the progress against the targeted improvements.
- Trial runs for the adjustment of manpower, following the agreed recommendations, were also carried out.

IMPLEMENTATION

Once agreement with senior management was reached in the Steering Committee Meeting, engagements took place with all levels of supervision, from general foremen to subcontractor team leaders. The purpose was for them to review the studies, propose a new sequence of work and recommend manpower levels for their respective areas. The effort was carried out utilising their expertise in refining the 'to-be' situation, ensuring recommendations were optimum and establishing buy-in during the implementation phase.

World Leaders in Sustainable Change

© Renoir Consulting Limited. This document remains the property of Renoir Consulting Limited and must not be copied or distributed in hardcopy or electronic form without the prior written approval of Renoir Consulting Limited.

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.

Visit Renoir at www.renoirgroup.com for more information and a complete list of regional contacts or send us an e-mail at: renoir.office@renoirgroup.com

The Steering Committee, chaired by the PORR Bau GmbH Project Manager, endorsed all proposals and agreed to the official kick off of the Implementation by Week 6 of the Project.

Implementation was a combination of reducing manpower in the identified areas, as well as revising the work sequence to optimize the crewing utilization, thus enabling future increases in production. Particular emphasis was placed on what had previously been bottlenecks, maximizing labour input at the most appropriate points, removing lost time elsewhere and speeding up the overall throughput time.

Close engagement with the general foremen and Factory Manager was undertaken during the initial stages of the implementation period. Renoir's visibility on-site was gradually reduced in order to increase supervisory ownership and ensure sustainability of the revised practices.

A review of the supervisory/general foremen management structure had previously been carried out. The outputs from this exercise, in conjunction with the efficiencies created during implementation, resulted in a recommendation to reduce supervisory headcount by 33% with no loss of control at any stage of the process.

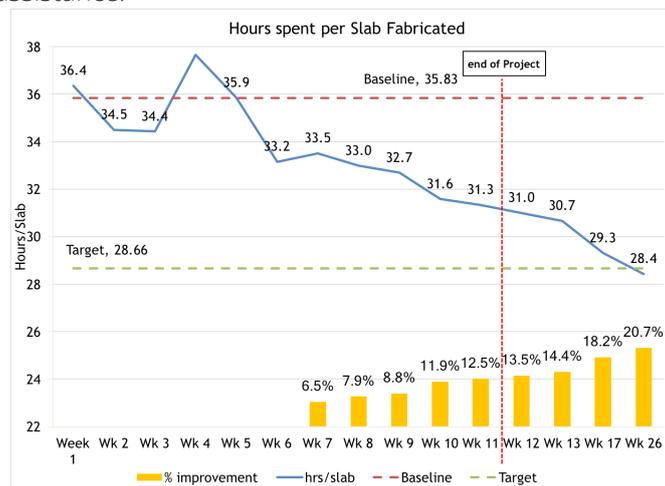
The following steps were conducted to ensure that implemented practices were sustainable and remain in the precast factory:

- Agreed final manpower recommendations area by area, including the maximum volumes they can produce with these crewing levels.
- Agreed implementation timelines for those recommendations as yet not realized, as a result of protracted ongoing discussions with labour-supply sub-contracting organisations.
- Maintained fortnightly Operating Reviews to ensure the already-realised benefits would remain in place.
- Remodelled the layout for one area within the production line to facilitate the upcoming 15% volume increase.

RESULTS

The primary objective of the assignment was to drive efficiency and cost reduction. As there was a considerable quantity of finished goods available, and through the implementation of the recommendations, the focus was on the optimisation of actual hours spent per slab fabricated.

The objective was met. In addition, the PORR project for the Doha Green Line has a more robust management control system to ensure these improvements are sustained and that further improvements can be achieved without the need for external assistance.



World Leaders in Sustainable Change

© Renoir Consulting Limited. This document remains the property of Renoir Consulting Limited and must not be copied or distributed in hardcopy or electronic form without the prior written approval of Renoir Consulting Limited.