

Carac Engineering Group & Empower Factory Productivity & Scheduling Software Case Study

(Eltham, South Taranaki, New Zealand)(27/02/2020)



<p>Core Products Manufactured (or Core Business)</p>	<p>We have two arms to our engineering business;</p> <ol style="list-style-type: none"> 1. Contract work for clients including CNC based; laser cutting, water cutting, welding and folding as well as general engineering. We also carry out painting and fabrication for clients 2. Engineering of a wide range of our own products we have designed and developed in house for trailer manufacturers and attachments for excavator track stability. We proactively market our products NZ nationwide and export to north America
<p>% Production is custom one off designs (each job different to the next)</p>	<p>100% of our contract engineering work for clients are to client designs and specifications, some production custom one off some production small batch runs.</p> <p>100% of own products are run in small batch runs and from the</p>

	perspective of the workshop staff jobs they are working on are mostly different
Any Key Background Information	For Carac Engineering advancing to Empower job tracking and scheduling software was a necessity and has produced significant companywide gains. With live accurate workshop floor data we can now progress our Lean Manufacturing, Industry 4.0, and Advanced Manufacturing which are all about reduce wastage and maximising work flow efficiencies in engineering.
# Factory Floor Staff	33
# Total Staff	43
Annual Revenue (approx)	Confidential, as a guide between \$4m and \$10m annually
Factory and Office Size m2	2000 square metres / 20,000 square feet approximately
# of CNCs	We have 5 robotic welders and a wide range of CNC laser cutters, CNC water cutters, CNC guillotines and CNC presses. We also have in house zinc plating and powder coating
Geography Serviced	Nationally and Internationally. Empower Scheduling plays a critically important role in planning and meeting our clients delivery dates which is essential to growing our sales and business
Staff Times on Jobs Recording prior to Empower	Poorly, by workshop staff completed manual time sheets. Time sheets that we recently used prior to Empower Software is very old technology used in New Zealand engineering over 100 years ago. Our workshop staff filled in their "cheat sheets" where they tried to remember the jobs they worked on each day and they tried to remember and guessed their job times and recorded manually on their time sheets at day end. Times manually recorded by workshop staff on their jobs were highly inaccurate and did not in any way make staff accountable and did not in any way motivate staff to work any quicker. Management reports from time sheets were available 2 to 3 days after production so largely worthless production information. Running manual time sheets was a massive administration time and cost for Carac with our large staff numbers and large production numbers daily
Years in Business	33+
Associations and any positions held	New Zealand Engineering Association, New Zealand Quality Association and NZ Made
Staff Groups Tracked on Empower	All workshop staff currently. In the near future we will progress to scheduling and tracking all our pre production staff in the office and all our site workers, this way we will schedule our 3 teams involved in production and we will capture companywide job times and job cost
Year we started using Empower	2017 (August)
# PCs or tablets on the Factory Floor with Empower on	7
# Of our Managers using Empower	9
Estimated Productivity Gains using Empower	Our reduction in labour times on jobs and labour cost on jobs is 20% currently. We are confident that we can get drive our labour times and labour cost on jobs significantly down further

Key Points we have found with Empower Factory Productivity and Scheduling Software:

1. History of accurate job times allows us to quickly and accurately quote labour time and labour cost into quotations and revised pricelists
2. Quick, live and accurate back costing of labour on jobs
3. Work in progress and job status visibility of all jobs on all our workshop floors from our office
4. Definitely makes all our workshop staff enormously more time focused and more accountable on their time on jobs
5. Great for setting job priorities, assessing capacities and production planning
6. Empower tracks and reports individual staff actual time to budgeted time on all jobs, this drives workshop floor productivity
7. The Empower development team are open to and progressively develop our good ideas we have requested to go into Empower. This is done at no cost to Carac and is great that Empower's policy is that

all clients get all software developments

8. Companywide, all workshop staff, all management and all administration staff awareness of and focus on job times. All management and all staff in the same boat rowing in the same direction
9. Our 20% reduction in labour time on jobs and labour cost on jobs, and more reduction to come

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