



## Improved wrench time for a mining customer

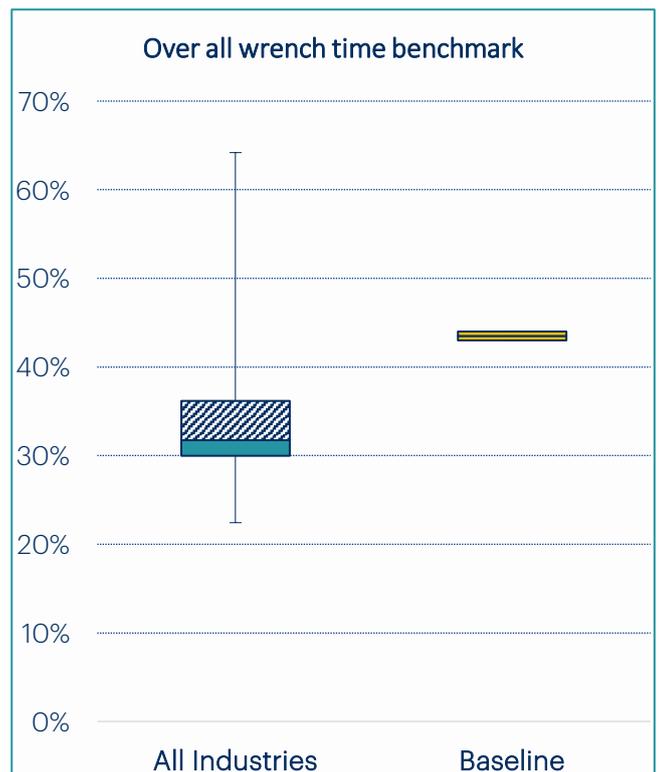
### Customer challenges

The customer, an international blue-chip company in the mining industry and owner of several mines worldwide, needed to achieve a **competitive cost per ton copper produced** entailing improved efficiency in its full value chain.

In 2014, Quant was awarded a new extended Service Contract for maintenance for part of the mine. At that time, Overall Craft Efficiency (OCE) was low with a wrench time around **43%** which is above industry average of **35%**, but far from the client's expectations of an average wrench time above **50%** for Maintenance Services.

In essence, **MTTR (Mean Time to Repair)** needed substantial improvement to support further productivity gains. Main areas of improvement were related to:

- i. **Not adequate availability** of maintenance resources such as tools, mobile cranes, and other major equipment needed for execution of work orders.
- ii. **Competence level** of the craftsmen, in general too low and not fully fit for purpose.
- iii. **Unclear interface for Planning and scheduling** due to the fact that planning was within customer's scope whereas scheduling was performed by the Supplier, resulting in inadequate resource planning, prioritization of work and misalignment between production and Quant's maintenance organization.

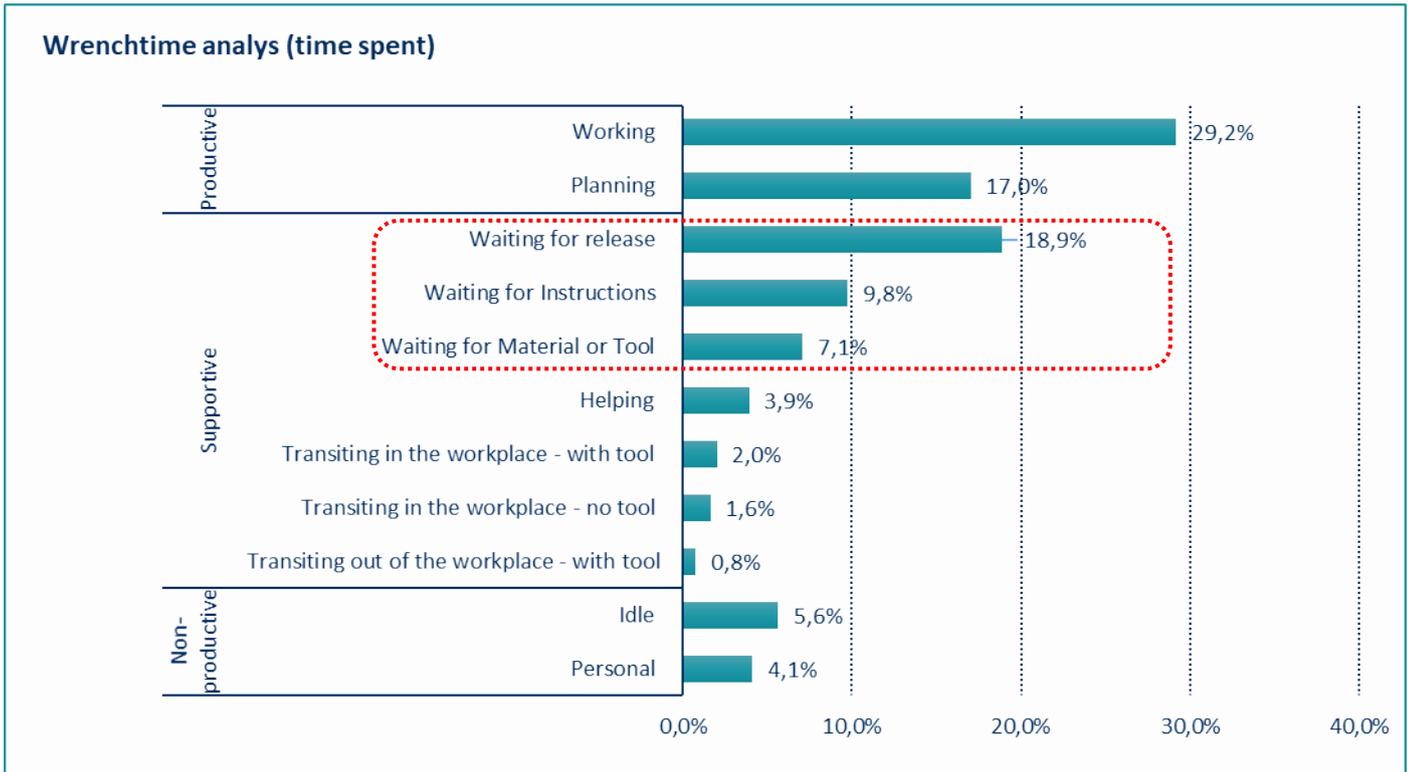


### Quant Solution

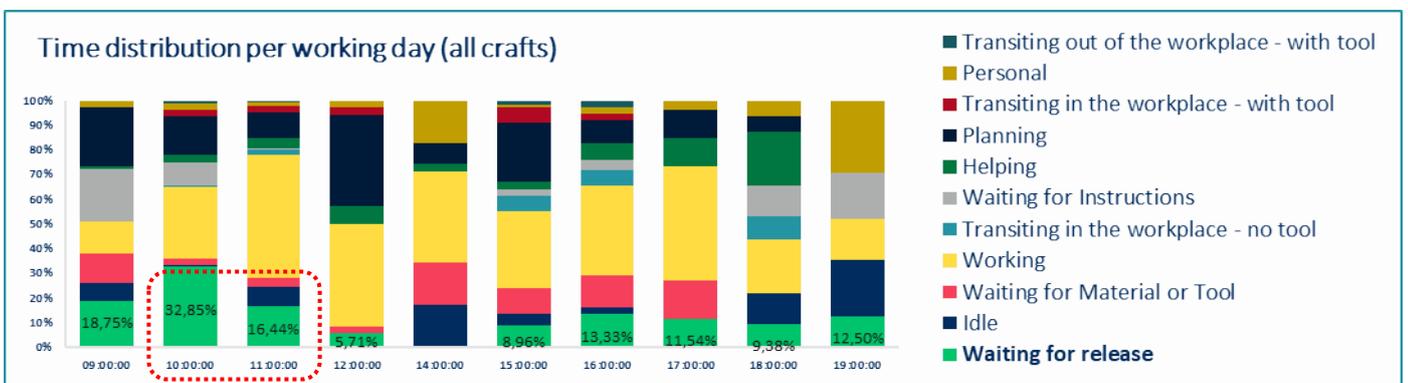
Quant instantly initiated a wrench time optimization project supported by their OCE methodology, with overarching objectives to:

- **Identify opportunities for improvement in human resource productivity. (do more with the same resources, do the same with less effort).**
- **Identify activities that don't add value to maintenance and should be minimized or eliminated.**
- **Contribute to the effective and optimal use of productive resources (assets, personnel, etc.) of the company.**

The wrench time study revealed that waiting time for Instructions, Material and Tools together counted for approx. 35% of total losses, especially prominent on the mechanical side.



To find the root cause, Quant took a further step and conducted a detailed study of time distribution over the day, for all departments and found out that “waiting for release” was especially prominent in the **morning around 10-11 am**, mainly due to the divided responsibility for planning and scheduling between Customer and Contractor.



Given findings, efforts were launched to **optimize planning and scheduling** – especially the interaction and dialogue with the customer – as well as a culture shift towards proactivity so that time losses could be minimized on a continuous basis. This included an ambitious series of workshops with the customer on the theme of planning and scheduling with the aim of clarifying roles and responsibilities, improved lock out – tag out process, improved planning of ILS (Integrated Logistic Support) ensuring availability of tools and other special equipment needed to perform the assigned tasks.

Furthermore, the workforce now continuously receives trainings, ensuring competence fit for purpose, roles and responsibilities have been clarified and effective communication channels have been established with the customer.

## Client value

Quant and the customer have achieved agreed objectives for efficiency improvements over 4 years period.

- Wrench time improved from **43% (2014) to 49% (2018)**, yielding higher availability of assets supporting further productivity improvements
- Cumulative time savings equal **98 000 working hours** over four years

