

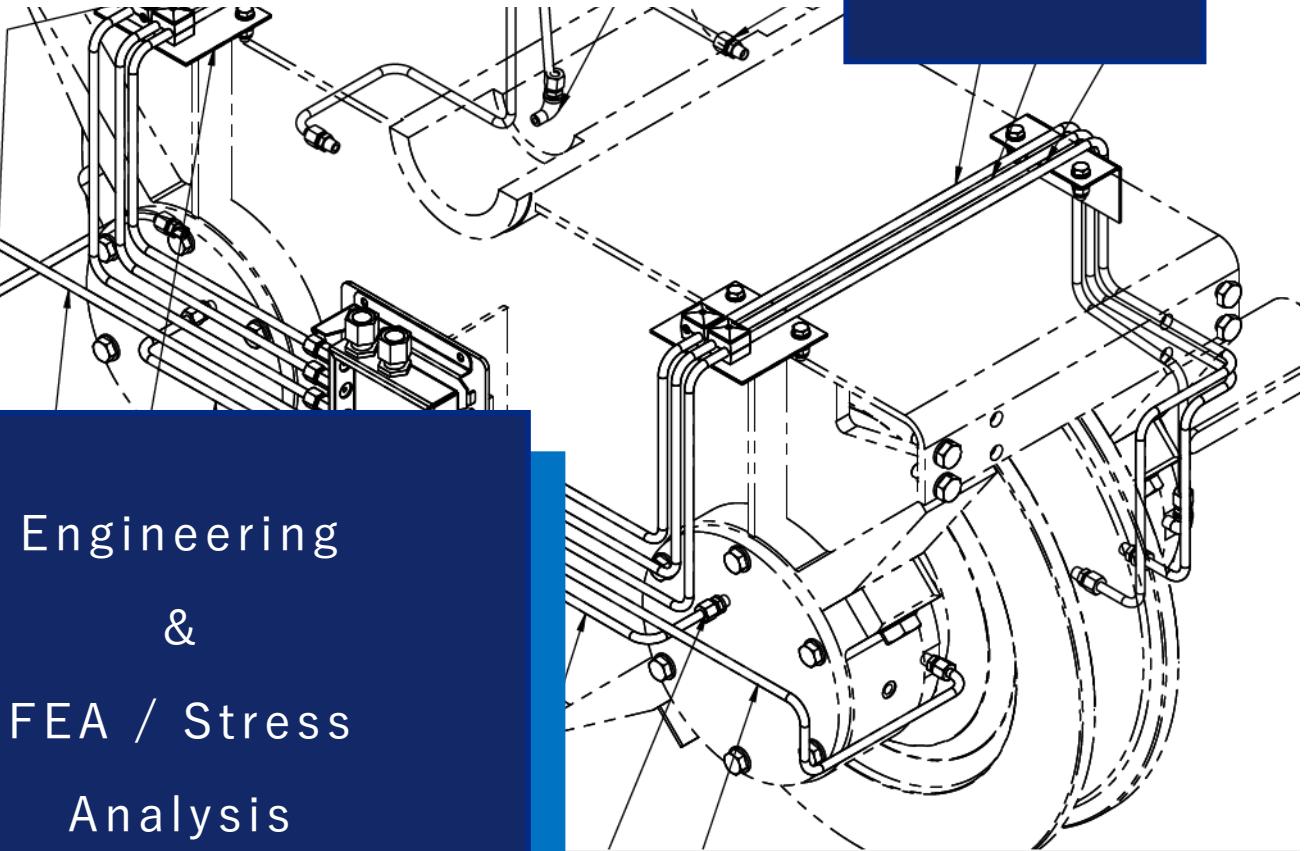


WITTENBAKER
ENGINEERING
SERVICES PTY

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-WES-

*Mechanical Engineering
Design to keep things
moving"*



Engineering & FEA / Stress Analysis

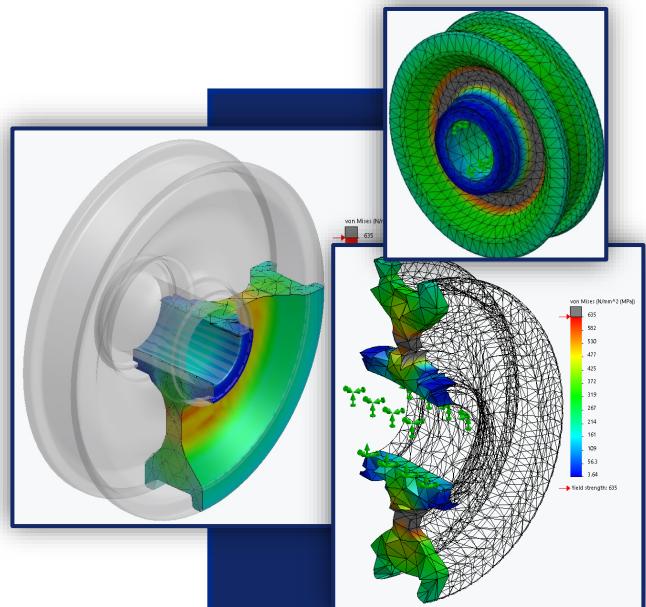
www.weservices.com.au

Here at WES we provide re-engineering solutions to our customers and their products, whether improved design e.g. Increased performance, better wear resistance, weight reduction or reduced cost of fabrication and/or installation are required our professional experience enables us to assist in a broad range of complex yet exciting projects. Local and overseas companies are seeking our expertise to accelerate their product development.

Crane and track wheels are critical components operating in challenging environments.

WES collaborative Engineering solutions succeeded in optimising the load carrying capacity and the material selection for these extreme applications and all done according to international standards such as DIN 15090, DIN 15070, AS 1418 and ASME.

With the crane wheel configurations, the quality of each wheel is crucial. Thus, material analyses was essential in order to manufacture durable wheels. WES' non-negotiable wheel operating requirements are good ductility (soft core) on its body allowing the wheel to take more load/unload cycles in addition to a hard surface on the wearing tread and flange(s).





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"Good can never be good enough"

Stress Analysis vs. Material

WES performs electronic stress analyses to achieve excellent outcomes using mechanical design software and for validations Finite Element Analysis. Multiple analyses might be necessary depending on each project.

A case study:

A double flange wheel was analyzed to enhance its maximum load carrying capacity. Material, critical dimensions, weight and cost of manufacturing were considered to design a reliable wheel configuration. On the basis of the outcome of the detailed design process, the appropriate materials were selected and critical manufacturing process for the track wheel defined.

