High travel track chain delivers outstanding service life in Australia

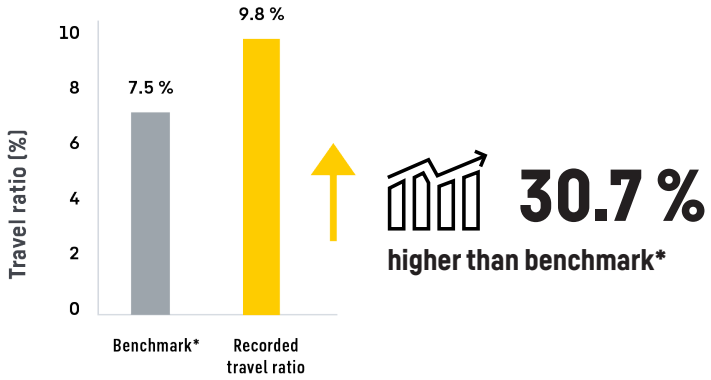
LIEBHERR

Mining



Situation

- **Location:** New South Wales, Australia
- **Application:** open-cut coal mining (thermal and semi-soft metallurgical)
- **Operating conditions:** extremely abrasive conditions, with sandy topsoil over predominantly blasted rock and coarse gravel
- **Equipment:** R 9600 excavator
- **Component:** Liebherr undercarriage track chain
- **Life at overhaul:** 32,744 hrs
- **Travel hours:** 3,202 hrs
- **Travel ratio:** 9.8 %



** Standard travel ratio assumption used as an industry benchmark by our application engineers in their reports and studies.*

Challenge

Due to the unique geology of the mine site and the nature of work performed across satellite and remote locations, the machine was required to travel significant distances as part of normal operations.

Extended travel periods place continuous demand on multiple undercarriage wear interfaces, including track chain articulation and pins, sprocket and track pad drive lug engagement, chain and roller contact, and idler and chain contact. Turning manoeuvres further increase lateral loads on the undercarriage. Together, these operating conditions can accelerate wear and fatigue, reducing the expected service life of undercarriage components.

As the track chain wears, the impact extends beyond the chain itself. The undercarriage system relies on the correct chain pitch and tension, meaning wear in one area can create a ripple effect that accelerates deterioration across sprockets, rollers, idlers, tensioning components and the frame.

If not managed effectively, this increased wear can reduce machine availability, make maintenance planning more difficult, and increase the likelihood of unplanned downtime and production disruptions.

Field results

32,744
operational hours achieved

36 %
longer lifetime despite a high travel ratio

**The benchmark used in this analysis is 24,000 hrs, which represents the undercarriage life cycle expectation provided to customers by alternative suppliers, based on an internally conducted study.*

8,744
additional operating hours*

1.5 years
additional operating life before replacement*

** Based on an assumed annual machine utilisation of 6,000 operating hours.*

The Liebherr advantage

The exceptional service life of this track chain is driven by Liebherr‘s integrated undercarriage design and patented track chain technology (Patent EP 3 045 381 B1). By optimising the roller-to-track interface and reducing contact stress, the system reduces wear, improves load distribution and delivers long-lasting, reliable performance in demanding mining applications.

When the track chain reaches the end of its service life, Liebherr works with the customer to schedule replacements during planned machine shutdowns, minimising maintenance downtime and maximising machine availability through proactive parts planning and support.

This combination of precision engineering, high-quality materials, and dedicated customer support sets Liebherr undercarriage solutions apart.

What this means for your operation

- **Reduced operational and maintenance risk**
- **Better control over shutdown planning**
- **Supports lower total cost of ownership**
- **Extended component life**

Scan here to request a complimentary, site-specific undercarriage performance review.