

Low Odour LOSP

Partnership and innovation in development and commercialisation of Low Odour Timberlink Green

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Lonza



Integrated pine products manufacturer.

Timberlink operates three sawmills and treatment plants.

Processing approximately 1 million m³ of log pa.

Comprehensive warehouse distribution network.

A photograph of a wooden slat fence. The fence is made of vertical wooden slats, with some slats in the foreground being out of focus. In the background, a brick wall and a potted plant are visible. A semi-transparent dark grey box is overlaid on the right side of the image, containing white text.

A strong focus
on high-value
outdoor treated
products.

Bell Bay, Australia

Bell Bay produces structural and treated products for outdoor and building applications. This multi-purpose preservative treatment plant was the first in the world to produce Low Odour LOSP treated timber.

Blenheim, New Zealand

High value-add sawmill with finger jointing and laminating capability, and two treatment plants. Blenheim recently commenced a NZ\$10 million capital upgrade programme.

Tarpeena, Australia

AU\$30 million invested in the past three years. High volume sawmill focussed on structural products, including Timberlink Blue H2F.



TIMBER LINK

AUSTRALIA | NEW ZEALAND

Why LOSP?

Dry-after-treatment market requirement

Direct cost of re-drying

Bottlenecks, handling, energy, and time.

Hidden costs of re-drying

Downgrade, damage, and waste.

Customer perception

Improved stability, and appearance.



Why LOSP?

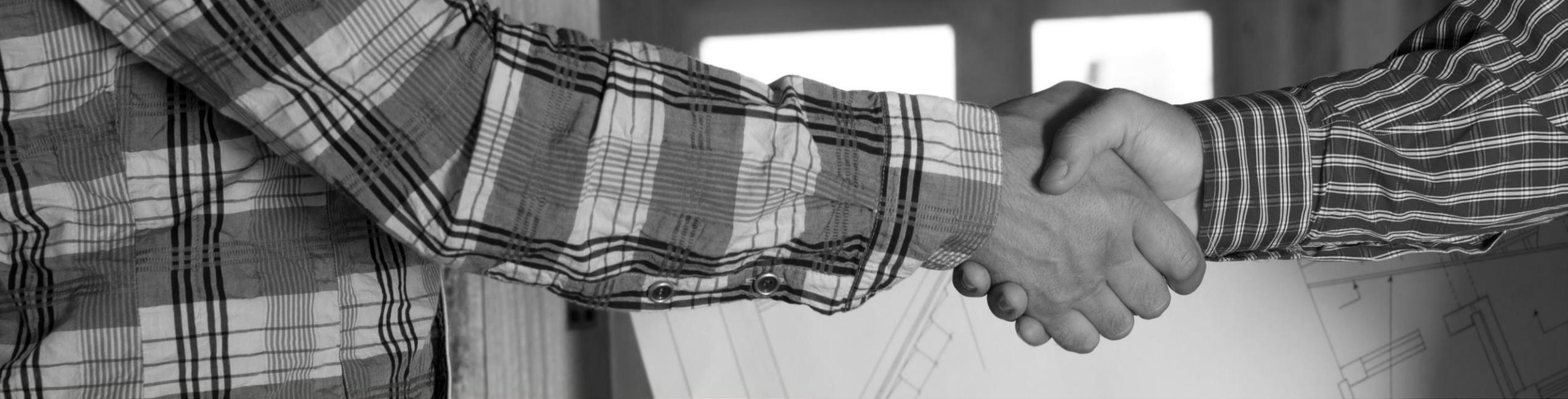
Process advantages.

- ▶ Redrying is costly. Treated timber packs require to be racked for drying and repacked for sale, this adds substantial handling costs.
- ▶ Kilns can be process bottlenecks, redrying decreases site productive capacity.
- ▶ Redrying can create an environmental hazard, with contaminated condensate produced.
- ▶ If product requires moulding after treatment, contaminated shavings are produced, needing specialised disposal.



Why Low Odour?

- ▶ Despite other advantages, traditional LOSP treated products may have distinct solvent odour. This can be unpleasant in dealing with the product.
- ▶ We worked with Lonza to develop a new, much lower odour treated timber product – Low Odour Timberlink Green.
- ▶ The improvement provides a more pleasant user experience for our staff producing and handling the products, customers working with packs in their yards and for users building with the timber.



Collaboration through partnering

Timberlink and Lonza have over a number of years jointly applied complementary expertise in optimal preservative chemical application across multiple chemical formulations in both pressure cylinder and spray-on applications.

We take a partnership approach to innovation.



Lonza

Development of Vacsol[®] Azure Low Odour



Project Objectives

Address odour issue at source - not apply band-aids to cover up symptoms.

Address formulation, compatibility & process issues.

Proper scale up work – lab to full commercial scale.

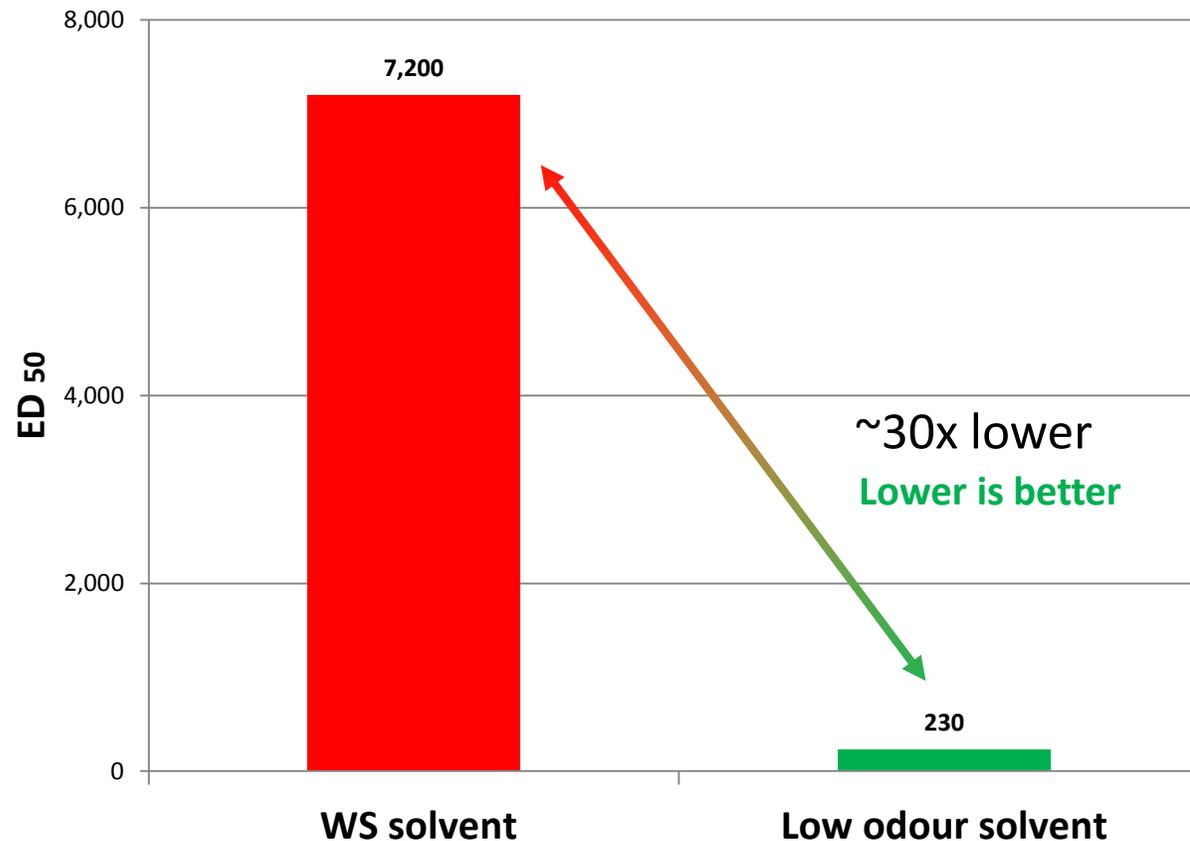
Demonstrate efficacy with alternative carrier.

Arrange logistics, alternative solvent sourcing.

Work intensively with foundation customer Timberlink to ensure that we stayed on the same page.

Odour Detection

Relative Odour Detection Limit

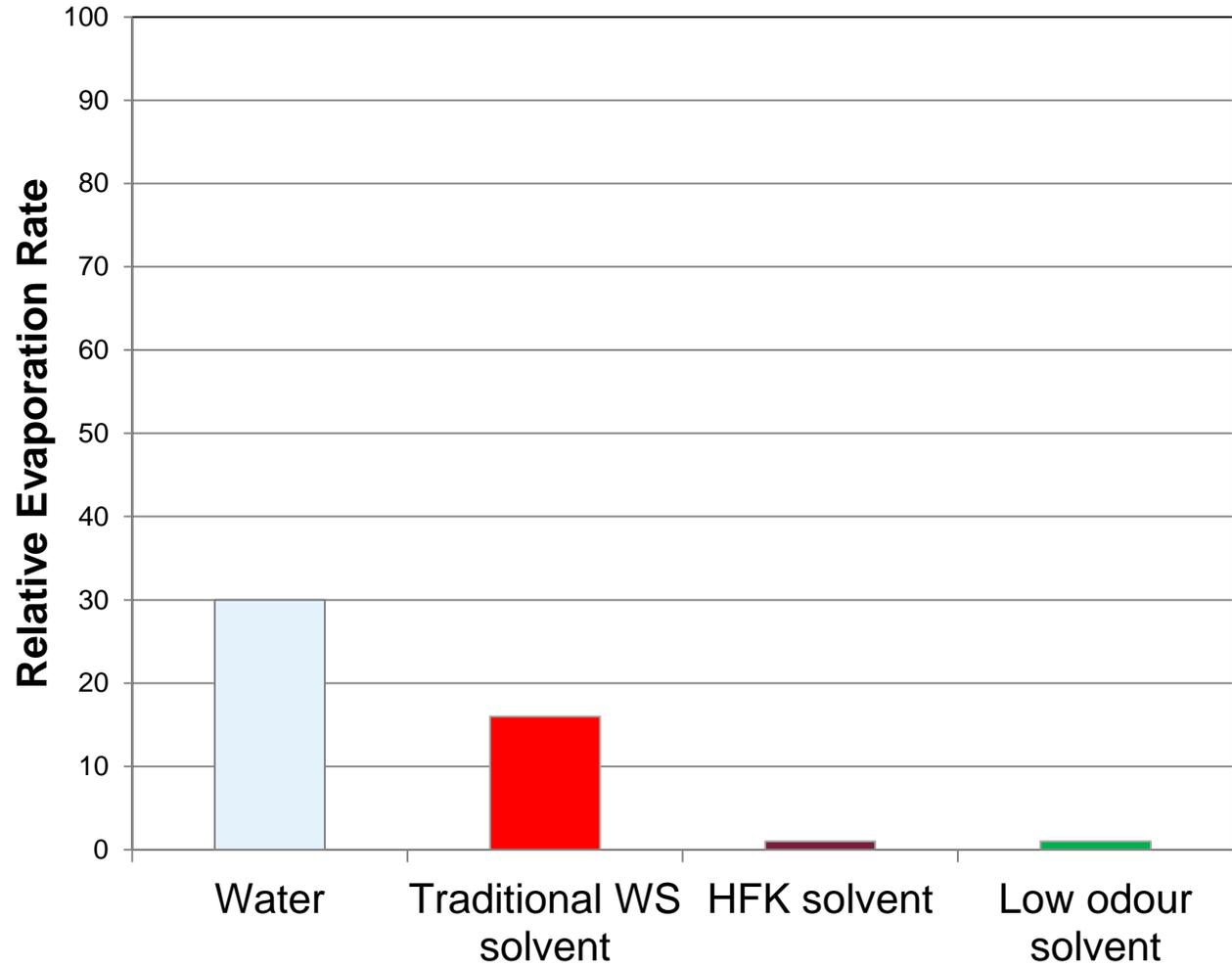


Odour detection up to 30 times lower with low odour solvent compared to White Spirits (WS).

Source: ExxonMobil

ED₅₀ = the level of vapour dilution factor at which more than 50% of test panel members can no longer distinguish odorous air from fresh air.

Relative Volatility



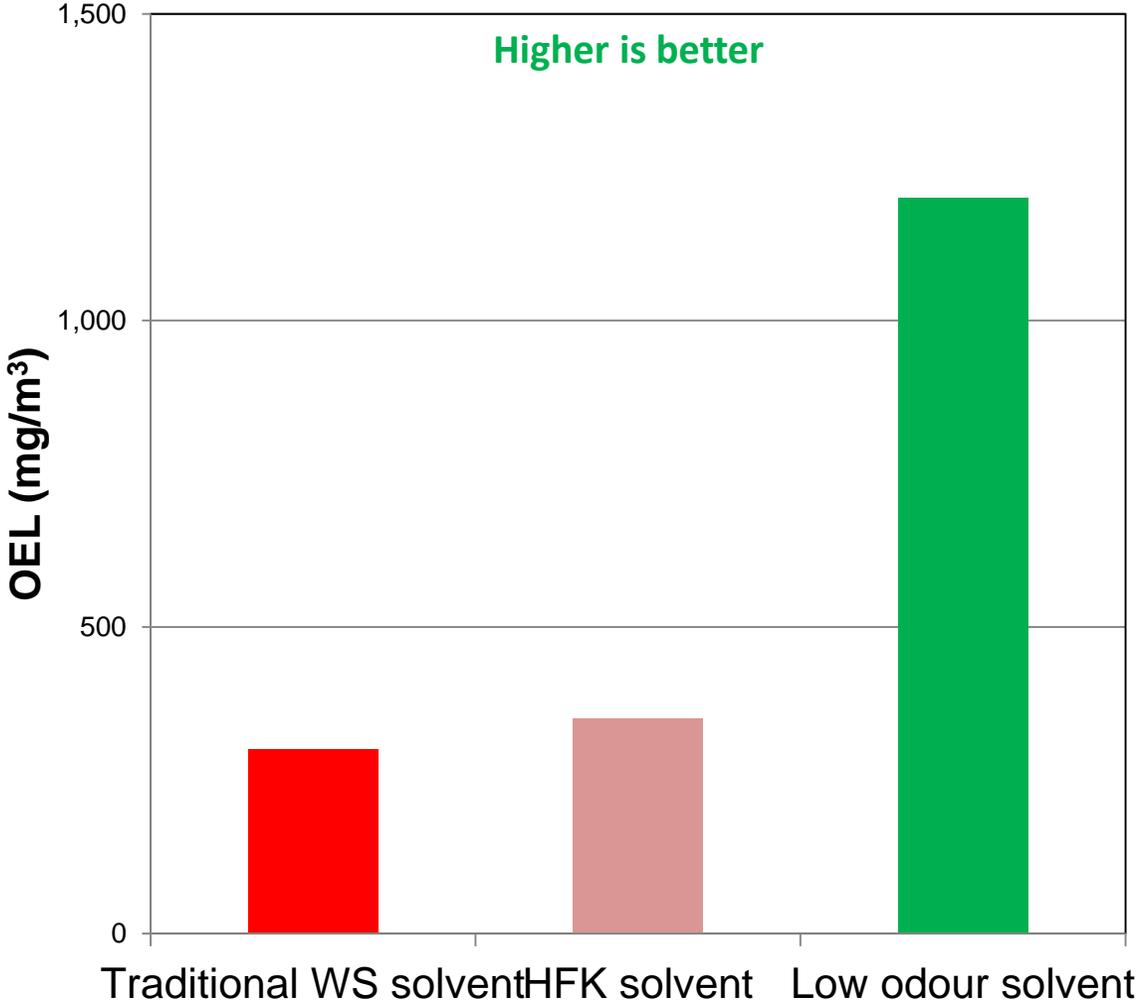
Reference: n-butyl acetate = 100
HFK = High Flash Kerosene



Lower volatility means slower rate of solvent vaporization.

Lonza

Occupational Exposure Limits



Note: Solvent vapour levels measured at LOSP treatment plant sites have generally been well under OEL levels.

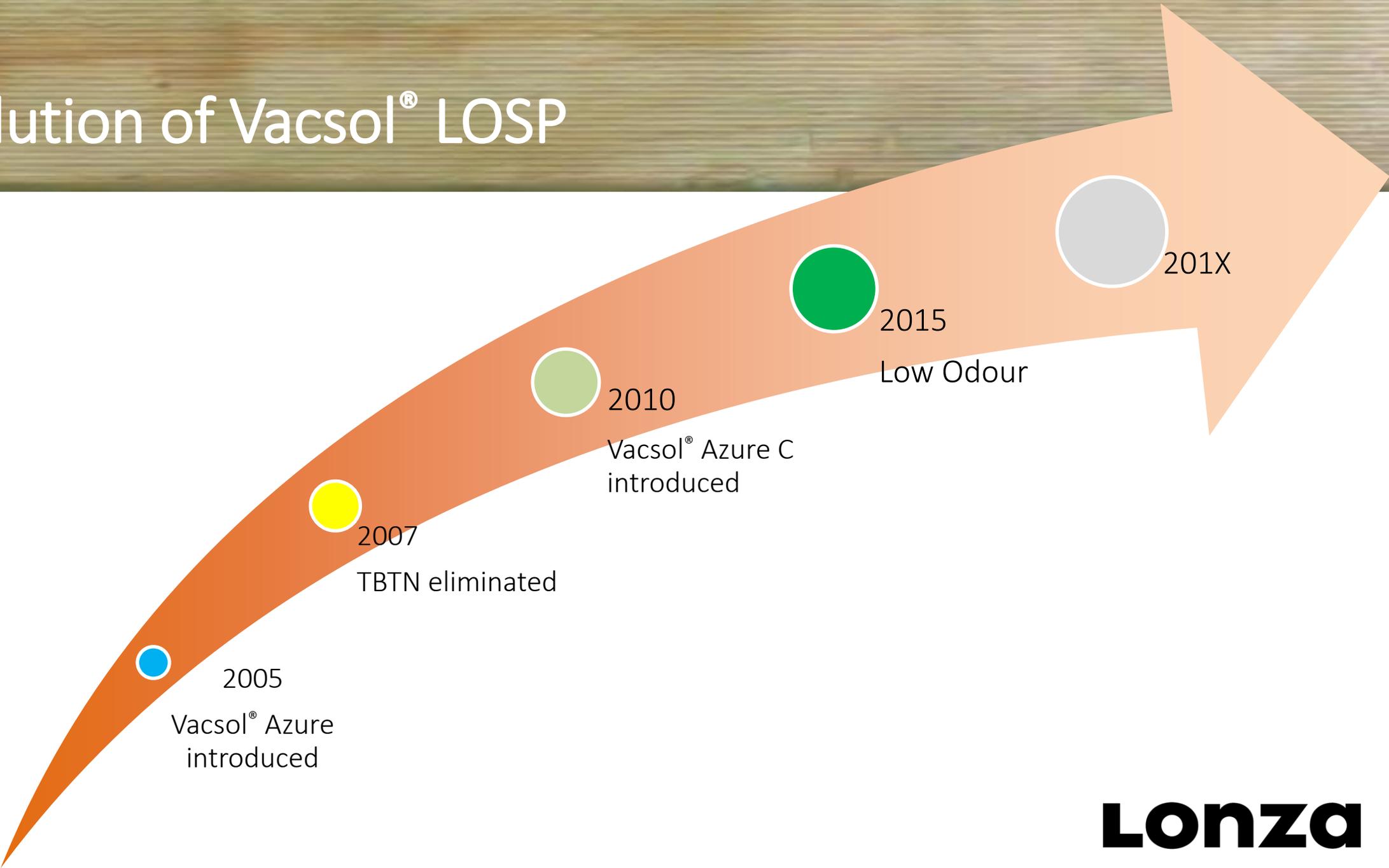
Efficacy Impact



Treatment (Radiata pine)	Weight Loss % ⁽¹⁾
Untreated controls	52
Solvent control (WS)	49
Solvent control (low odour)	45
0.015% azoles (WS)	8
0.03% azoles (WS)	3
0.06% azoles (WS)	2
0.015% azoles (low odour)	7
0.03% azoles (low odour)	2
0.06% azoles (low odour)	0

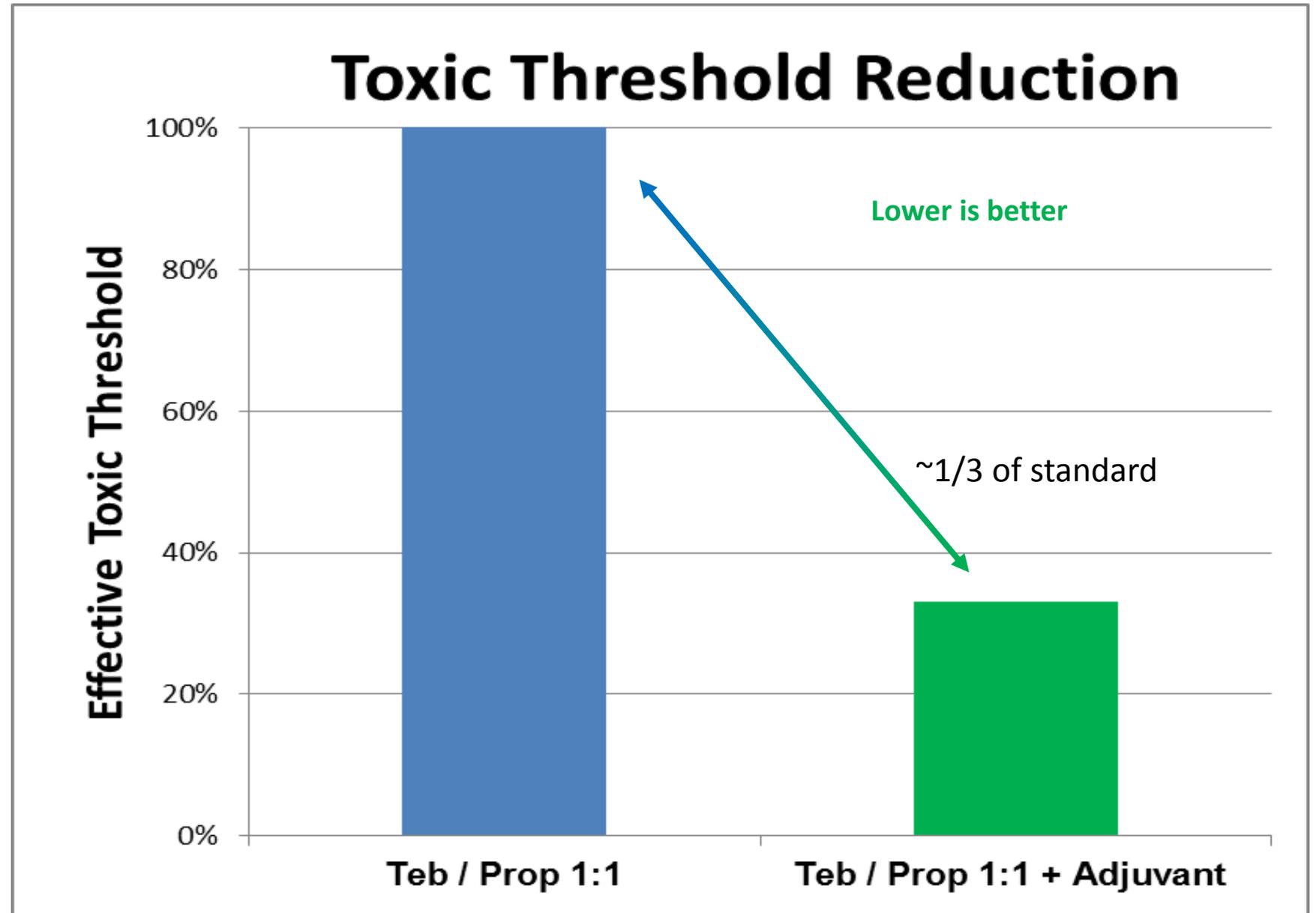
(1) Average of 5 pure culture decay organisms

Evolution of Vacsol[®] LOSP



Azole Efficacy Enhancement

- Results from single organism soil jar decay tests.
- Copper and azole tolerant brown rot (*F. lilacino-gilva*).
- Adjuvant results in 60% to 70% reduction in effective toxic threshold of azole actives.



Commercialisation

Compatibility testing of the new formulation at laboratory scale and pilot plant trials of the new Low Odour formulation with existing Tanalith E and Vacsol T solutions gave us confidence to proceed at Bell Bay.

Contingency plans developed.

Conversion staged. Converted to new pigment; blended Low Odour formulation with standard LOSP; then full conversion to Low Odour.

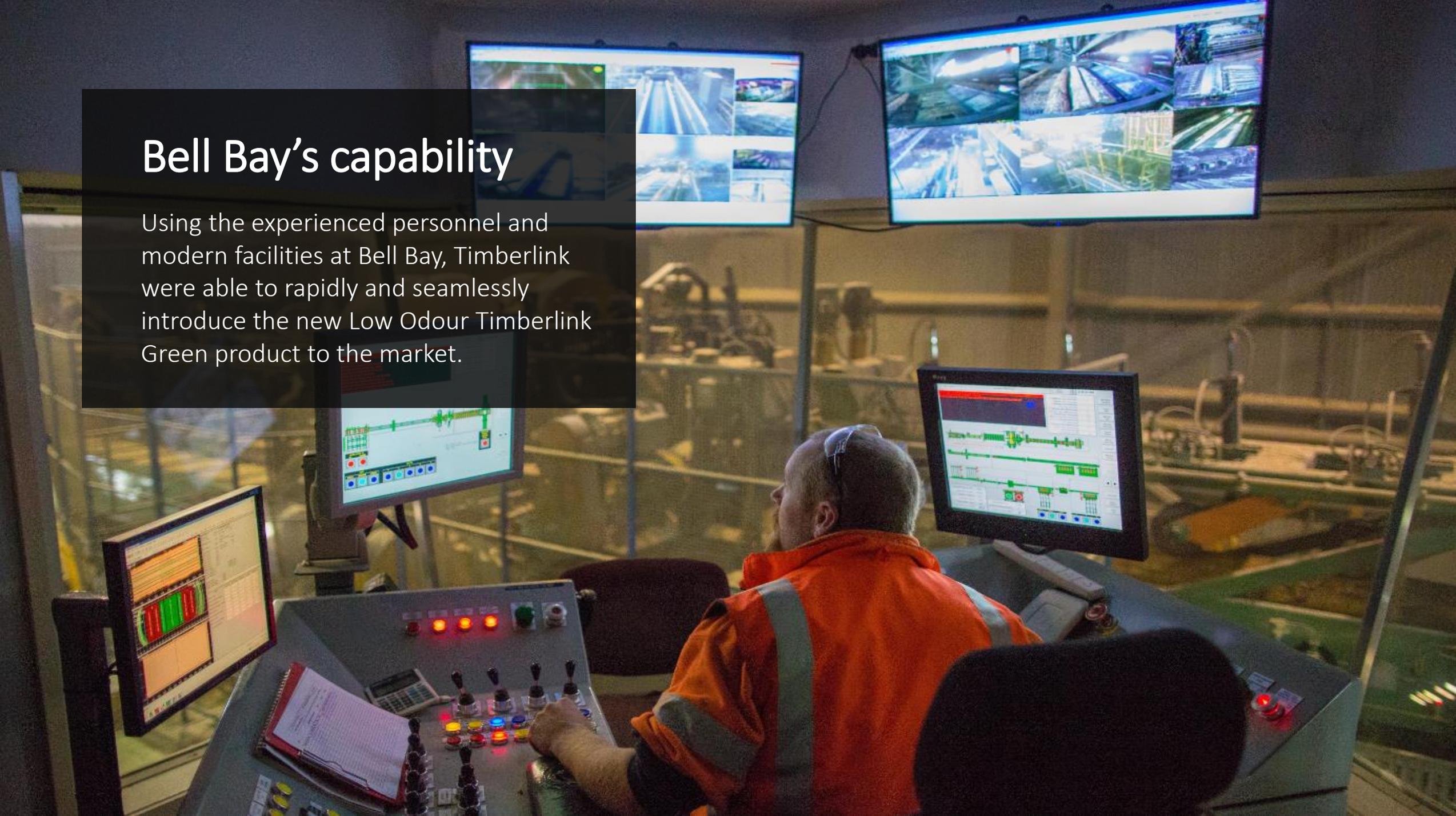
Transitional treated timber product closely monitored for quality

Process tuning performed to ensure required active loadings and penetration achieved

Smooth transition (relatively!)

Bell Bay's capability

Using the experienced personnel and modern facilities at Bell Bay, Timberlink were able to rapidly and seamlessly introduce the new Low Odour Timberlink Green product to the market.





“The pink logo stands out above the rest.”
from customer interview conducted by RoE.

“Their product innovation plans are of special and important interest to us.”

“Innovation is a key area.”

Innovation

One of Timberlink’s focus areas for future proofing and developing the business is innovation, it’s also been a consistent theme in our customer surveys.

Market testing and validation

Timberlink Account Managers conducted a series of 'sniff tests' on Low Odour.

Customers were given three pieces of timber (1 untreated, 1 Low Odour, and 1 traditional formulation)



The results found that 90% of our customers could immediately identify the new Low Odour LOSP timber treatment.

Respondents then rated how much the odour had noticeably improved and rated the odour improvement as up to 80 times better.

The pink badge has been rated as highly memorable and impactful.

“The pink logo stands out above the rest.”

We wanted a unique identifier to differentiate Low Odour from traditional LOSP. Pink reflects a light, fresh colour to match Low Odour attributes.



Low Odour campaigns

Smell.



To find out more about this world first innovation scan the QR code or visit timberlinkaustralia.com.au/low-odour-timberlink-green-a-world-first/

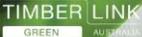


...especially since Low Odour LOSP Timberlink Green was launched

Spring: time to get outdoors and get cracking on that new deck or pergola if it's to be ready for Christmas. As the outdoor building market kicks off, consider stocking the latest innovation in outdoor structural timber, Timberlink Green Low Odour. It's reliable and stable plus you'll have no more unpleasant odours coming from your racks. To find out more about this world first innovation available only from Timberlink scan the QR code or visit timberlinkaustralia.com.au



High stock levels to support customers during peak season demand.



New Low Odour is unique in the market.

It's treated with LOSP, the preferred H3 treatment for outdoor in Australia today, which ensures better dimensional stability in your racks; a green pigment is added to make it easier to identify for the right application and usage (above ground outdoors).

And, now this treatment by Timberlink includes a special formulation which means there is no unpleasant odour as with traditional LOSP formulations. Made from a high proportion of pruned logs this ensures superior visual performance with fewer knots and defects than just machine-graded pine.

With Low Odour Timberlink Green, you now get the preferred treatment for better stability, no bad smell and a superior looking grade.

To find out more about this world first innovation available only from Timberlink scan the QR code or visit: <http://www.timberlinkaustralia.com.au/>

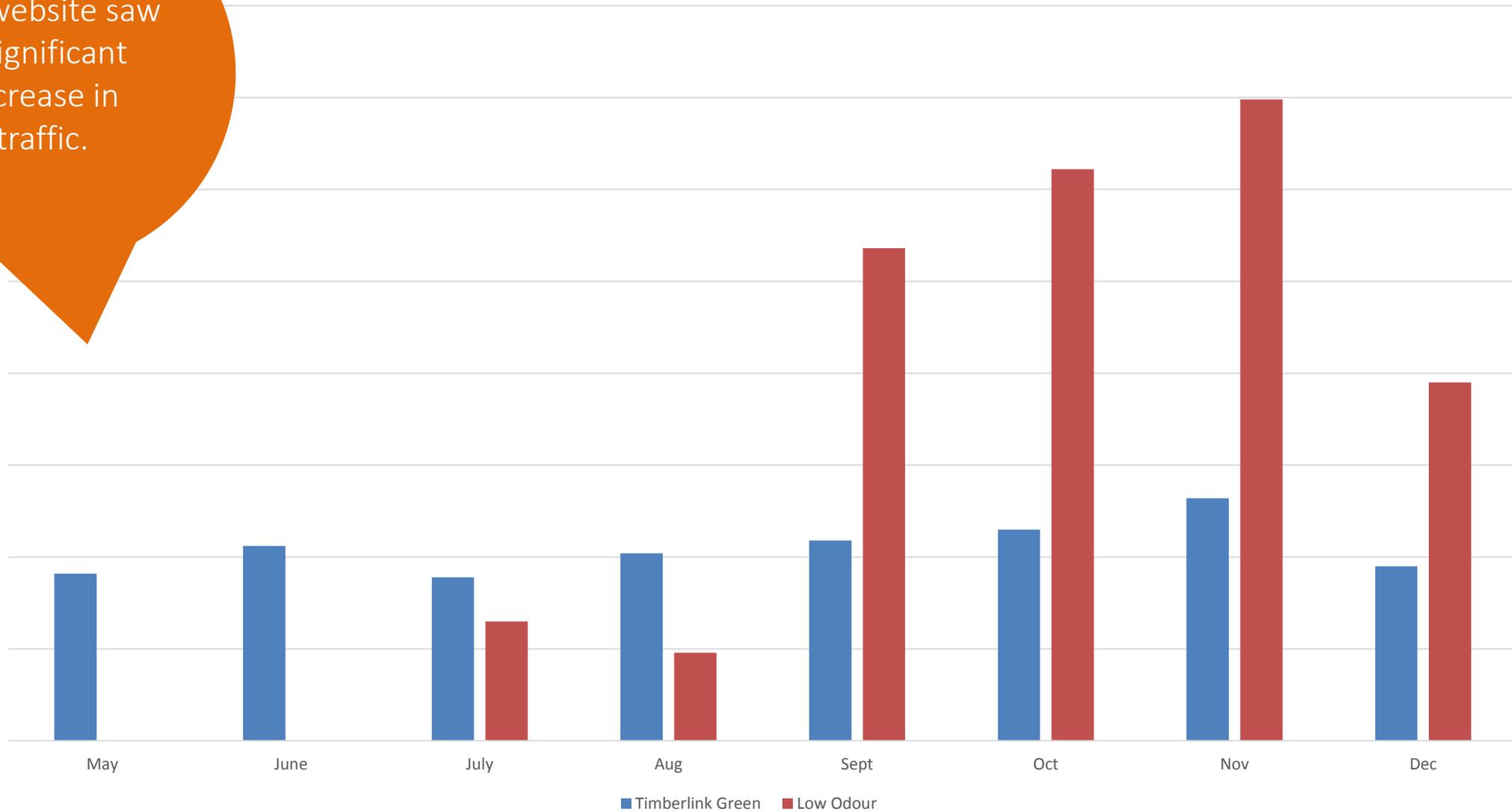


Superior appearance.

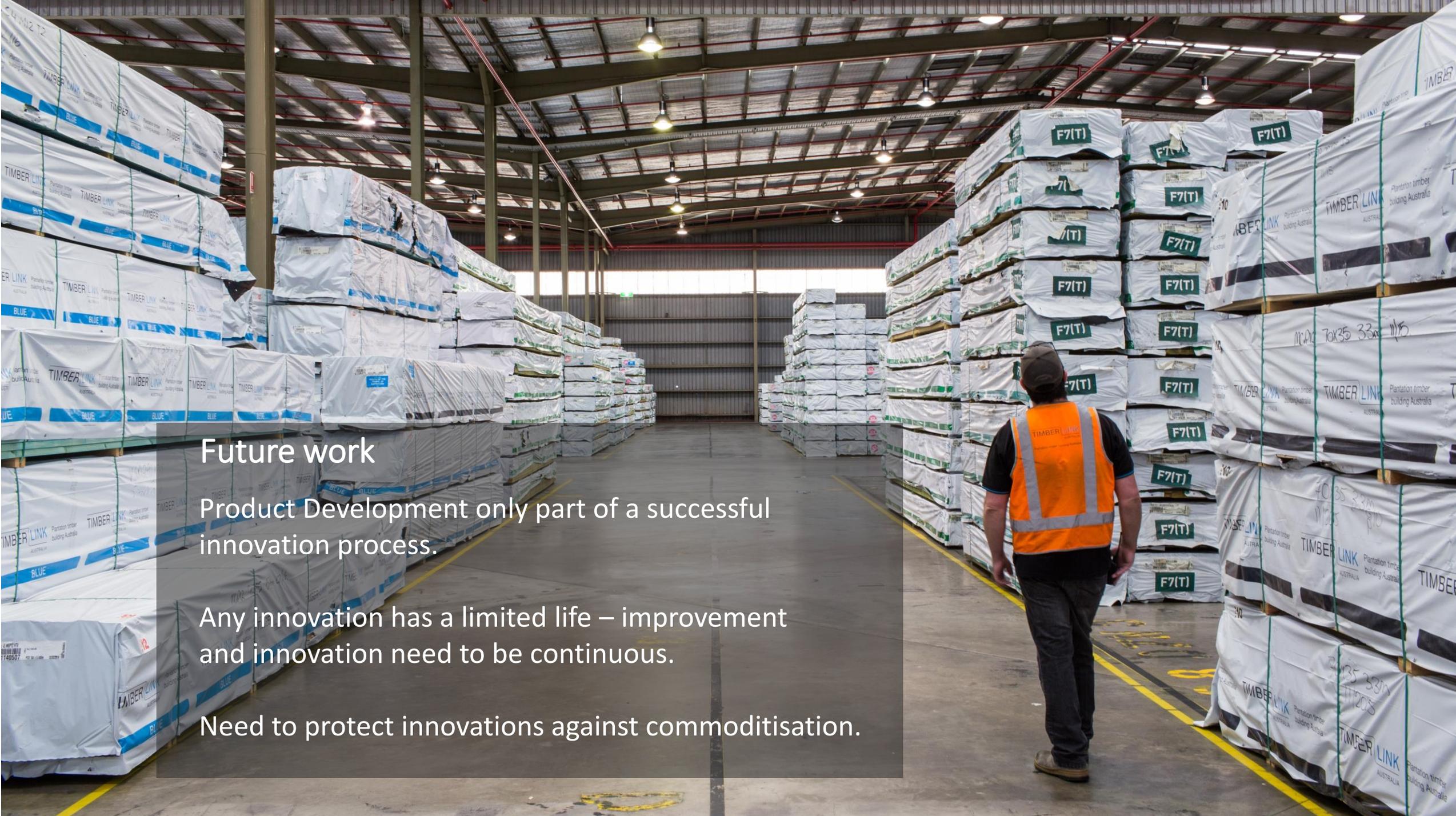


Traditional vs Low Odour website tracking

Our website saw a significant increase in traffic.



Website stats include views and clicks.



Future work

Product Development only part of a successful innovation process.

Any innovation has a limited life – improvement and innovation need to be continuous.

Need to protect innovations against commoditisation.



Lonza

