

# Low Odour LOSP

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

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Timberlink Australia | New Zealand

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Protection Asia Pacific



**Lonza**



# Integrated pine products manufacturer.

Timberlink operates three sawmills and treatment plants.

Processing approximately 1 million m<sup>3</sup> 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?

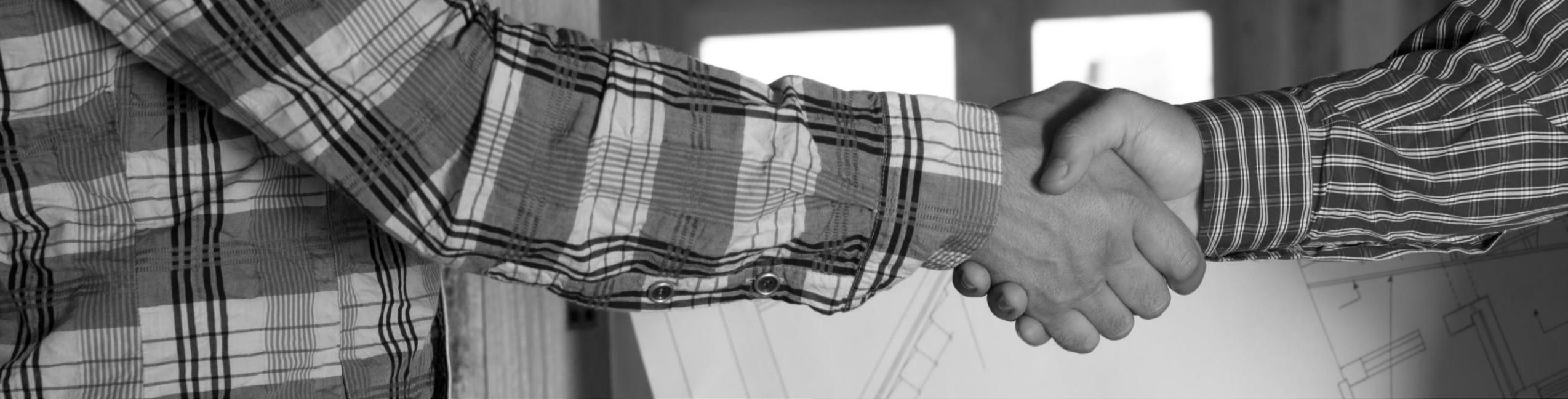
## Process advantages.

- ▶ 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<sup>®</sup> Azure Low Odour



# Project Objectives

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

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Address formulation, compatibility & process issues.

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Proper scale up work – lab to full commercial scale.

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Demonstrate efficacy with alternative carrier.

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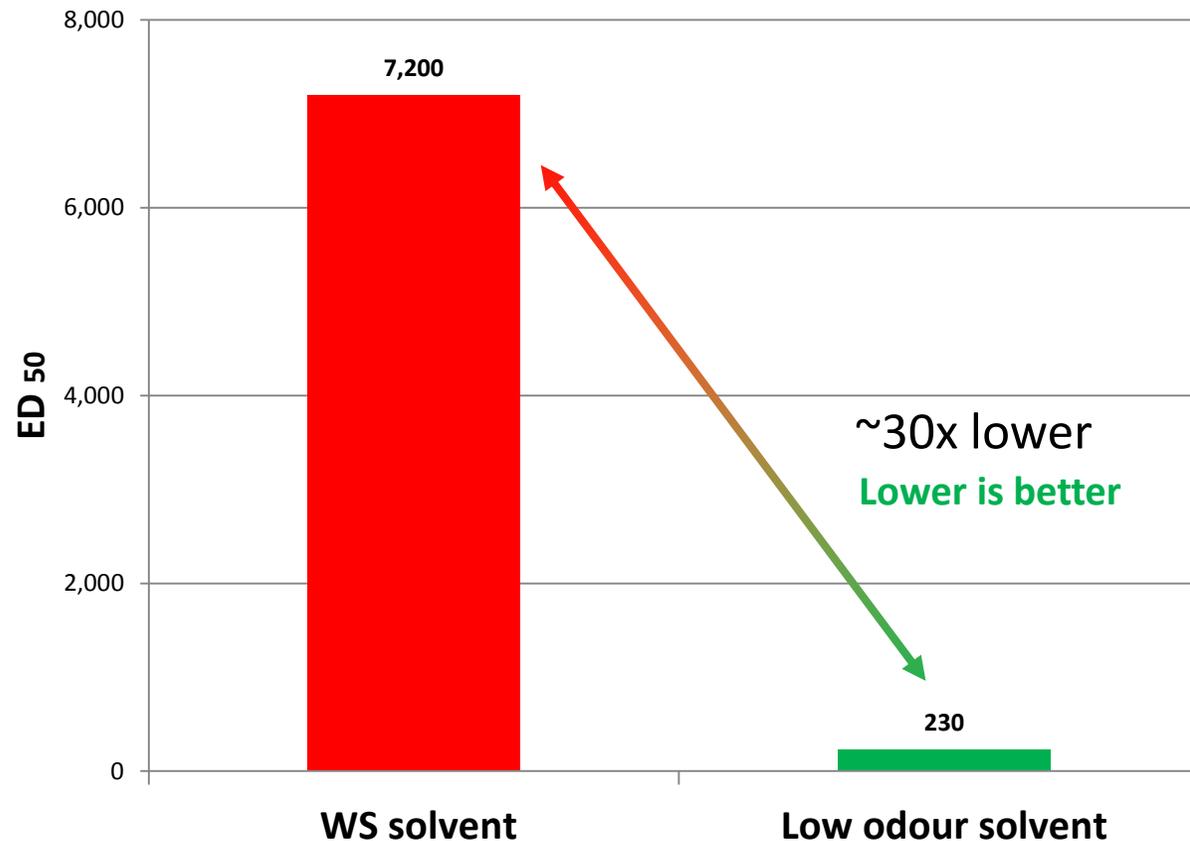
Arrange logistics, alternative solvent sourcing.

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

# Odour Detection

## Relative Odour Detection Limit

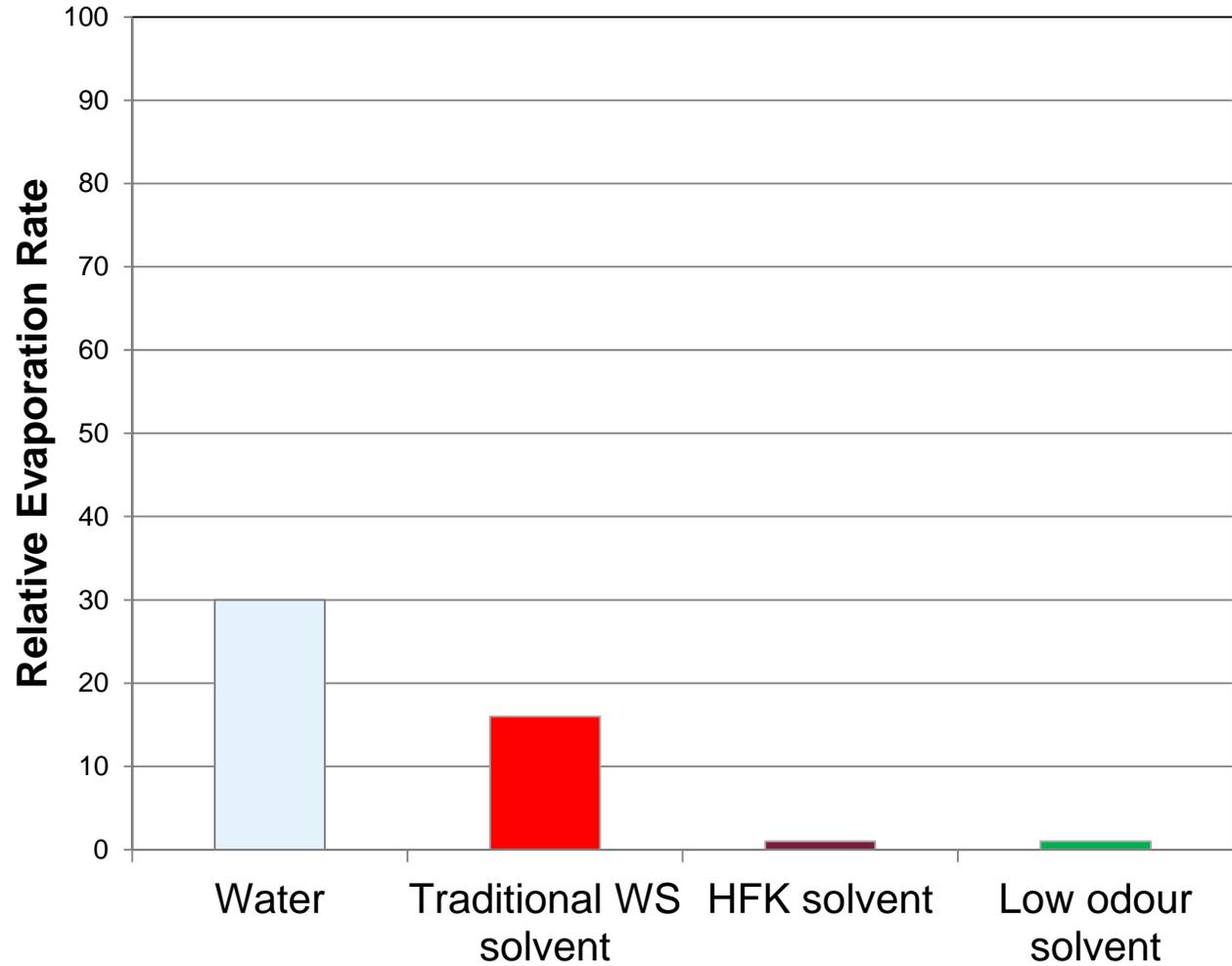


Odour detection up to 30 times lower with low odour solvent compared to White Spirits (WS).

Source: ExxonMobil

ED<sub>50</sub> = 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



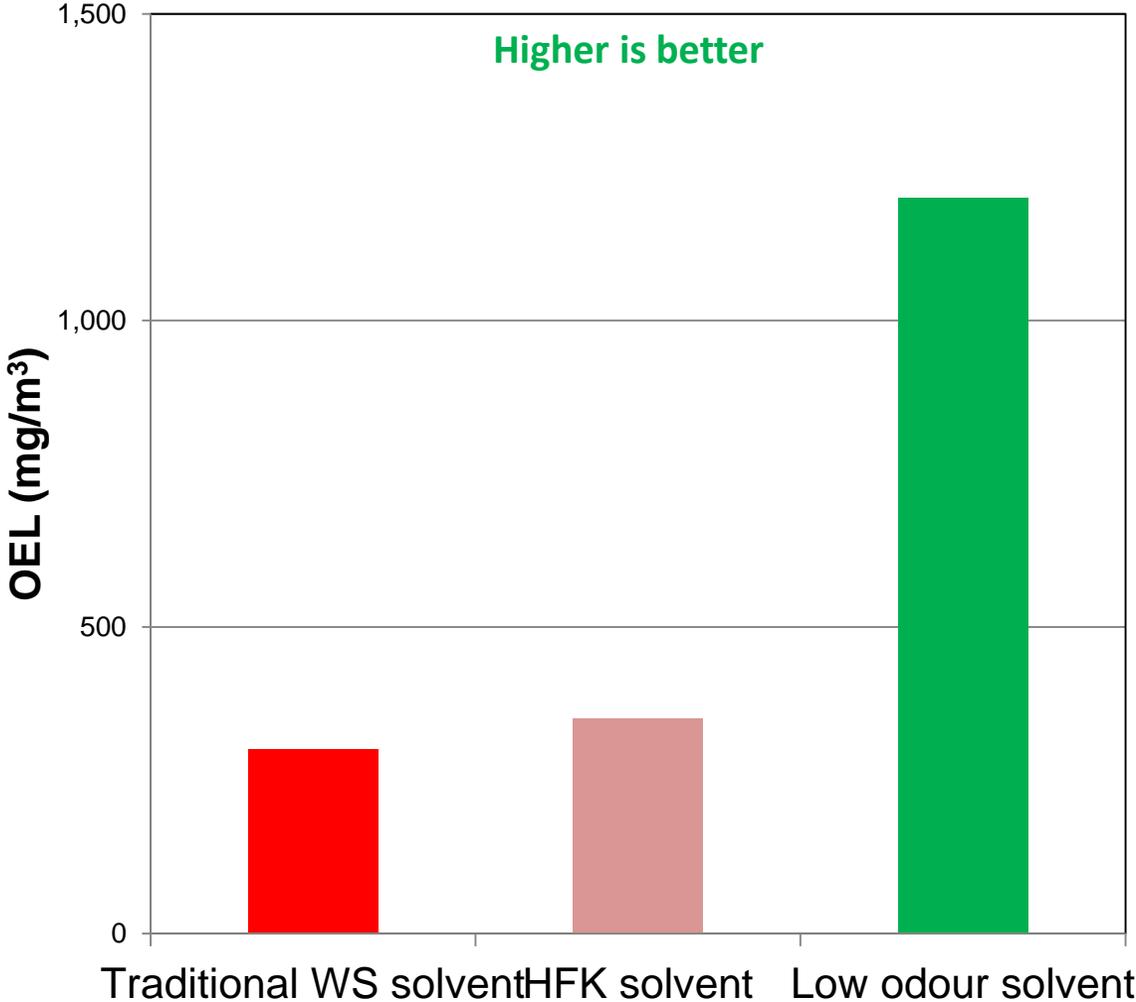
Reference: n-butyl acetate = 100  
HFK = High Flash Kerosene



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.

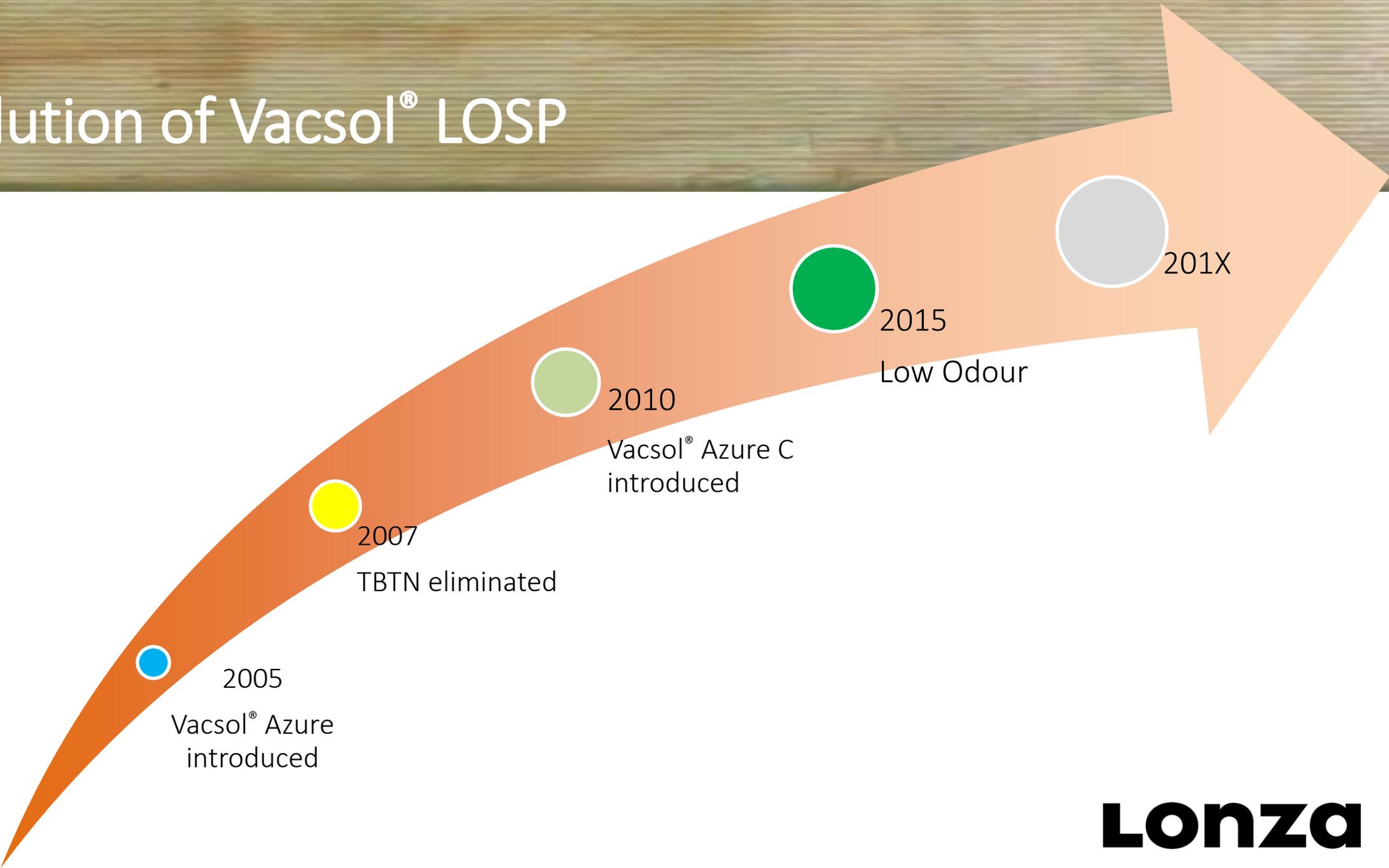
# Efficacy Impact



Treatment (Radiata pine)	Weight Loss % <sup>(1)</sup>
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

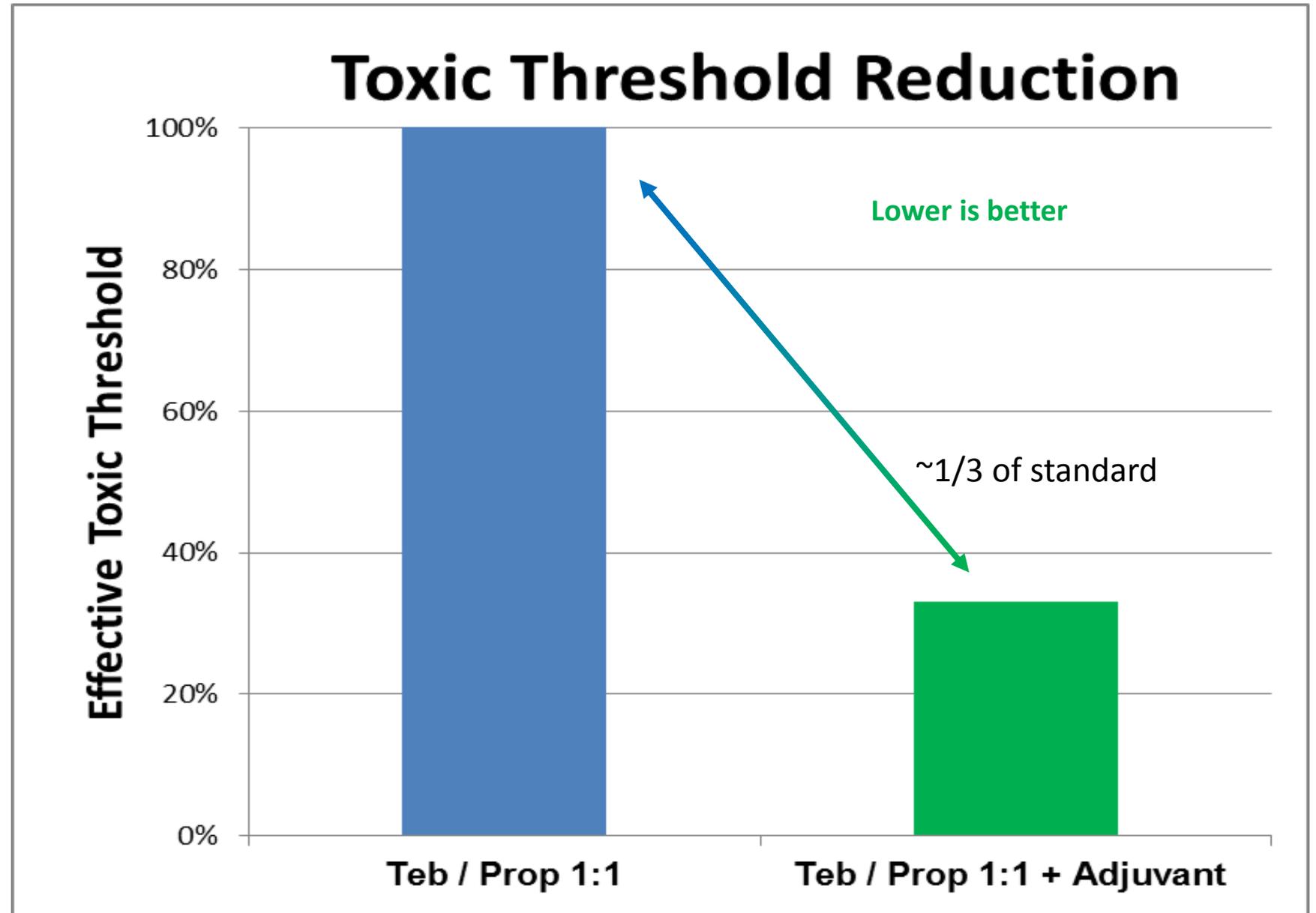
(1) Average of 5 pure culture decay organisms

# Evolution of Vacsol<sup>®</sup> 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.

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Contingency plans developed.

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

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Transitional treated timber product closely monitored for quality

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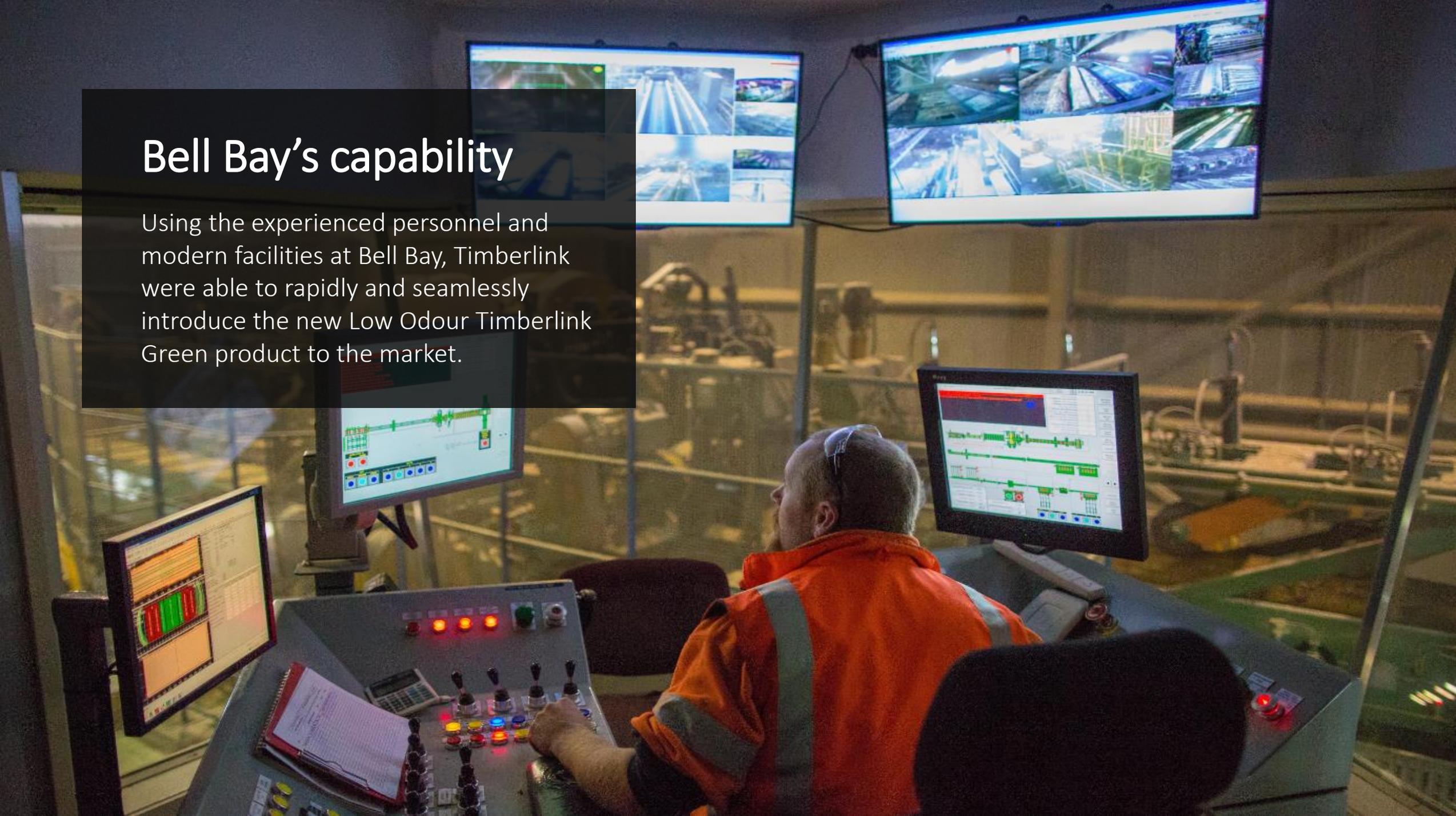
Process tuning performed to ensure required active loadings and penetration achieved

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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/](http://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](http://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/>



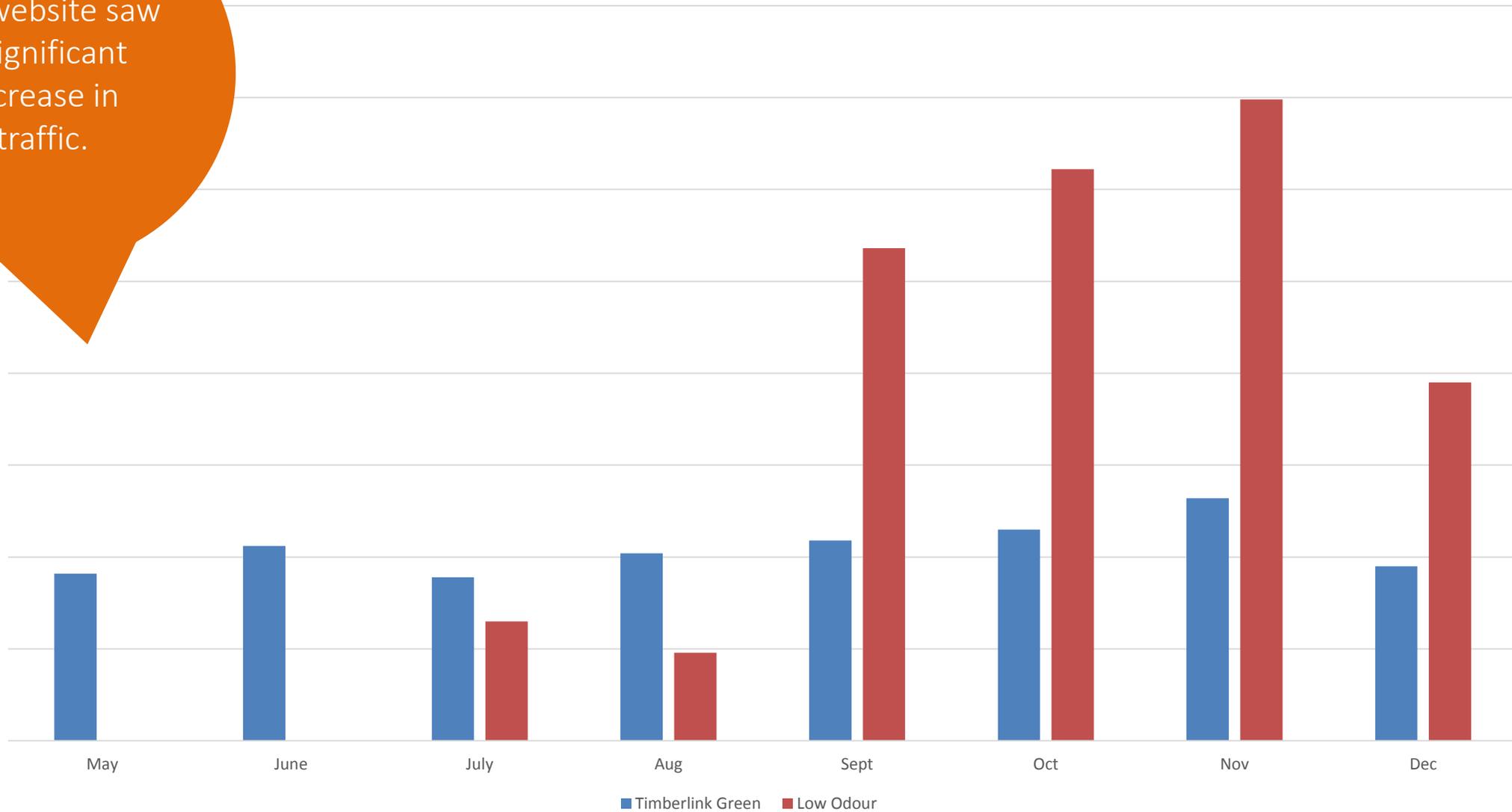


Superior appearance.



# Traditional vs Low Odour website tracking

Our website saw a significant increase in traffic.



Website stats include views and clicks.

# Low Odour made industry headlines upon its release. PR was printed in industry publications.

## New low odour LOSP treatment world first

23 July 2015



### \* New Low Odour LOSP

TIMBERLINK AUSTRALIA is the first in the world to offer a new Low Odour LOSP (Light Organic Solvent Preservative) treatment that has up to 30 times less odour than traditional LOSP formulations. This world first patent pending treatment has been developed in conjunction with their major preservative partner, Arch Chemicals (Lonza) and is now being used to treat the Timberlink Green Low Odour Structural Pine range. Source: TimberBiz

"We believe new low odour Timberlink Green is one of the most innovative timber products released in Australia for some years. It has all the benefits of conventional LOSP treated product, but without the typical odour," said Dr David Humphrey, Asia Pacific Research & Development Manager for Arch Wood Protection.

LOSP has become Australia's preferred treatment for H3 outdoor treated timber with its dimensional stability and consistent appearance. It also had no complicated usage restrictions attached to it making it ideal for all above ground outdoor building applications such as pergolas and deck substructures. However the distinct odour

## New Low Odour - the nose knows!

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

Our new Low Odour Timberlink Green range has been creating a lot of interest since we launched last month.

Independent studies indicate that the carrier used in our new LOSP formulation has approximately 30 times less odour than conventional LOSP. However we wanted to back up these findings with our own testing. So last month our Account Managers conducted a series of 'nose tests' on our new Low Odour Timberlink Green timber.

Each will test involved a customer agreeing to take a blind sniff test of three different and unidentified pieces of timber (1 being an untreated sample, 1 being Low Odour and 1 being the traditional formulation) and then asked to identify the piece of Low Odour Timberlink Green.

The results found 90% of our customers could identify the new Low Odour LOSP timber treatment. "The attributes of Low Odour Timberlink Green has been achieved through the development of a patent pending low aromatic formulation," commented Dr. David Humphrey, Asia Pacific R&D Manager for Arch Wood Protection who is the treatment supplier of this Low Odour formulation.

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

These respondents also indicated a high likelihood to recommend the new product to a company colleague.

Not only is this new Low Odour Timberlink Green product offering creating some innovation across the industry, our customers believe it is giving them a point of difference with their treated offer to builders and consumers.

We thank everyone who got involved in the Low Odour LOSP Timberlink Green sniff test. For all the people that took part, there were five \$100 gift vouchers up for grabs.

Congratulations to the following people who won: David from Independent Timber Supplies, Stuart from K & W Workwear, Carolee from John from Slowen.

Mark from Banner Woodwork, Tim from Bannings Bayview.



Timberlink reduces the stink...



The new Timberlink Green Low Odour timber...

...at a price that won't get up your nose

## New low odour LOSP treatment world first

Friday 17 Jul 2015

Timberlink Australia is the first in the world to offer a new Low Odour LOSP (Light Organic Solvent Preservative) treatment that has up to 30 times less odour than traditional LOSP formulations. This world first patent pending treatment has been developed in conjunction with their major preservative partner, Arch Chemicals (Lonza) and is now being used to treat the Timberlink Green Low Odour Structural Pine range.

"We believe new low odour Timberlink Green is one of the most innovative timber products released in Australia for some years. It has all the benefits of conventional LOSP treated product, but without the typical odour," states Dr. David Humphrey, Asia Pacific Research & Development Manager for Arch Wood Protection.

LOSP has become Australia's preferred treatment for H3 outdoor treated timber with its dimensional stability and consistent appearance. It also had no complicated usage restrictions attached to it making it ideal for all above ground outdoor building applications such as pergolas and deck substructures. However the distinct odour associated with traditional LOSP treated timber can make storage, handling and usage of the product a negative experience for some customers and end-users.

"The preference for LOSP for outdoor structural products has occurred because the market could clearly see benefits with product stability and less stress in the timber with no need to re-dry timber after treatment to maintain structural ratings. These benefits coupled with Timberlink Australia's pruned log feedstock and strict grading rules at our Bell Bay sawmill is establishing a strong market preference for our Timberlink Green H3 LOSP outdoor structural range," explains Trevor Innes, GM of Technical and Environment at Timberlink Australia.

## New low odour LOSP treatment world first

11th August 2015

Timberlink Australia is the first in the world to offer a new Low Odour LOSP (Light Organic Solvent Preservative) treatment that has up to 30 times less odour than traditional LOSP formulations.

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[Click here for source \(Friday Offcuts\)](#)

the exterior timber screen."

Phillip Howard, Director of Pacific Environments Architects, explained that the company's inspiration for the library

"Timber is a renewable resource providing whole-of-life credibility," Fergie says. "There are now so many exciting ways it's being used - it's visually

glue-laminated timber, arch supporting the front entrance. Wynn Williams House and Trimble Navigation's offices, also made extensive use of

the innovations Kiwi companies are employing to an age-old industry that can benefit both the environment and New Zealand's citizens and economy.

Timberlink reduces the stink...

## TIMBER PRESERVATION

# The sweet smell of green

## Timberlink markets low-odour LOSP treatment

LEADING plantation pine processor Timberlink Australia has produced a new low-odour LOSP treatment that has up to 30 times less odour than traditional LOSP formulations.

This world 'first' patent pending treatment has been developed in conjunction with Timberlink's major preservative partner Arch Chemicals (Lonza) and is now being used to treat the Timberlink Green Low Odour Structural Pine range.

### Dimensional stability and consistent appearance

"The product has all the benefits of conventional LOSP treated product, but without the typical odour," says Dr. David Humphrey, Asia Pacific R&D manager for Arch Wood Protection.

LOSP (light organic solvent preservative) has become Australia's preferred treatment



Smells good... the Timberlink Green Low Odour Structural Pine range now on the market.

for H3 outdoor treated timber with its dimensional stability and consistent appearance. It also has no complicated usage restrictions attached to it making it ideal for all above-ground outdoor building applications such as pergolas and deck substructures.

However, the distinct odour associated with traditional LOSP treated timber can make storage, handling and usage of the

product a negative experience for some customers and end-users.

"The preference for LOSP for outdoor structural products has occurred because the market could clearly see benefits with product stability and less stress in the timber with no need to re-dry timber after treatment to maintain structural ratings," Timberlink's technical and environmental manager Trevor Innes said.

processing that was the focus of a way to incorporate damage avoidance with seismic design."

The firms used a technology developed within the University



Architects designers were recognised for their work on the The Kōwhiri house in Nelson.

recognised with leading architecture firms for modern New Zealand projects.

"Timber is a renewable resource providing whole-of-life credibility," she said.

...at a price that won't get up your nose



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/](http://timberlinkaustralia.com.au/low-odour-timberlink-green-a-world-first/)



# 10

Years 10, 2015

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- Low Odour Timberlink Green a World First
- Market Update by Kate Hunt
- Customer Survey Findings
- Wood Matters Up Matters
- New Grant Supports Regional Growth
- Science Shows How to Treat Timber
- New Technical Resources
- Partners Quarterly Update

## World First

Timberlink Australia will be the first in the world to offer low odour LOSP (Light Organic Solvent Preservative) treated timber thanks to an exciting new development in outdoor timber treatment.

The new low odour LOSP will be used to treat our Timberlink Green H3 Outdoor Structural range produced in Bell Bay. It will also incorporate a component developed by Arch Chemicals (Lonza) that has up to 30 times less odour than traditional LOSP formulations.

What we have lost the strong smell associated with LOSP we haven't lost any of its effectiveness at protecting timber against termites and fungal attack. The new formulation is also backed by Arch's 20 years of R&D expertise.

LOSP treatment type is now the preferred method for outdoor structural and deck substructures in Australia. With no requirement to re-dry after treatment, the product is stress free and therefore tends to be more stable in our customers' applications. The benefits of the traditional treatment, with the new low odour and we believe that our new low odour Timberlink Green will be preferred by the market in Australia.

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## 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**

