Like a moth metamorphosing into something better, we are once again transitioning to what I believe will be a superior and more focused business.

I am delighted to announce that Herens HoldCo Ltd., a company held by Bain Capital Private Equity and Cinven has purchased the Specialty Chemical business from Lonza Group.

Our business has undergone many transformations over the past 50 years, starting with Hickson and transitioning to a joint venture with Koppers forming Koppers-Hickson to the sale of Hickson to Arch resulting in the formation of Koppers-Arch and more recently the divestment by Koppers to Arch and the eventual purchase of Arch by Lonza.

On each occasion the focus of the business has been on our customers, ensuring that you were not affected and that we maintained our high level of service and dedication.

Let me start off by saying that I am thankful and appreciative of what Lonza has brought to the Australian and New Zealand markets these past several years. The portfolio of products available to our customers locally has expanded markedly and the commitment to research has seen the establishment of R&D centres in New Zealand and Australia.

Due to the change in ownership, LSI will no longer use Lonza logos and we will be working through a process to have these changed and you may also notice disclaimers clarifying we are now part of Herens HoldCo Ltd. Senior management is currently working on a new name and brand and we will inform you of the details of this in due course.

For now, this change of ownership is expected to have little if any impact on you as a valued LSI customer. The LSI legal entity with which you do business, for the time being will remain the same, as will your points of contact. Existing contracts and conditions, as well as all delivery and invoicing procedures, remain in place. It will be business as usual.

I see this as an exciting time and my team and I look forward to continuing our relationship with you going forward. If you have any questions, please contact me or your local LSI representative.

Angelo Hrastov
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Can the timber industry in Australia change the balance of carbon emissions?

Australia, along with all countries of the world, face a massive challenge with climate change and how best to manage it without having to change our comfortable lifestyles.

Under international climate agreements, Australia has two targets to reduce greenhouse gas emissions:
• 5% below 2000 levels by 2020 (under the Kyoto Protocol) and,
• 26-28% below 2005 levels by 2030 (under the Paris Agreement).

While figures have not yet been finalised, the government indicated that Australia beat the 2020 target by almost 430 million tonnes. Achieving the 2030 target however may prove challenging. To achieve this target we need to know where our emissions are coming from and have effective policies to reduce those emissions.

Timber can make a useful contribution to carbon abatement, but it won’t solve the emissions problem. Emissions are going to continue to increase unless we address them at the source.

Carbon Emissions

The Australian Government tracks emissions of greenhouse gases (such as carbon dioxide and methane) through National Greenhouse Gas Accounts. According to the most recent Quarterly Update, Australia produced 535.7 million tonnes of carbon dioxide emissions. These emissions came from various sectors as shown in the chart above.

Australia’s Greenhouse emissions are amongst the worlds worst when measured on a per capita basis. According to the latest World Bank data, dated 2018, Australians emit 15.5 tonnes of Carbon Dioxide per capita, which is more that 3 times the world average (4.48) and 2 times New Zealand (6.6).

Australia needs to act quickly to decarbonise the power sector and address improving industry and transport emissions. The agriculture and waste sectors cannot be reduced to zero, and some industries, such as heavy industry, aviation and shipping - will likely need a bit longer to decarbonise.
Forest Resource

Australia’s forests and harvested wood products are estimated to sequester over 48.0 billion tonnes of carbon dioxide, with 98% being stored in living forest. Around 86 per cent of Australia’s total log harvest comes from plantation forests which has not grown in size in the last 10 years. The forest sector has projected that Australia needs to establish approximately a billion trees (equivalent to 400,000 hectares) of new plantations over the next decade to meet projected demand for wood.

If the forest industry plants one billion new trees over the next 10 years, an estimated additional 18 million tonnes of carbon dioxide will be sequestered per year by 2030. This is consistent with an announcement in 2018 based on the Federal Government’s National Plan for the Forest Industries (however yet to be implemented).

The Timber Industries Role in Offsetting Carbon Emissions

With a relatively large forested area and small population, Australia is the unusual position of potentially being able to reduce total and per capita greenhouse gas emissions through forest management. Among nations, Australia has one of the largest forest areas per person ~7 Ha. few other nations have comparative potential roles for forest management to reduce atmospheric Carbon dioxide.

Plantation forestry is good for carbon abatement but needs scale. It needs hundreds of thousands of hectares in reasonably contiguous blocks to make the harvesting and transport of timber to mills for processing cost-effective.

For every hectare of plantation the average rate of carbon abatement is about 20 tonnes of Carbon Dioxide a hectare annually. According to a CSIRO report, for every million hectares of biodiversity plantings, 1.4 per cent of Australia’s carbon emissions level could be abated each year.

Wood Products have important environmental advantages over alternative building materials in addition to storing carbon from the atmosphere. The use of wood products results in overall lower greenhouse gas emissions than most alternatives.

By choosing wood products wherever possible in house construction, greenhouse gas emissions equivalent to up to 25 tonnes of carbon dioxide per house could be saved in Australia.

Residues are produced at each stage of wood and wood-product processing. Typically 40 to 60 per cent of log biomass is lost to residues during processing to green rough sawn boards. The type of residues generated and their fate are important to the greenhouse impact of wood products. For example, if the sawdust is burnt to waste, the carbon is emitted back into the atmosphere without any benefits. However, if the sawdust is burnt to produce heat for a drying kiln, for example, the energy generated typically avoids the use of fossil fuel energy.

Biochar is a carbon-rich material, essentially charcoal, produced by heating biological material such as plant matter in the absence of oxygen. Unlike plant matter, biochar is relatively stable over time and won’t decompose in the way that plant waste can (plant decomposition releases CO2 into the atmosphere). Carbon sequestered in this form can be used to offset carbon emissions and sales of biochar and corresponding carbon credits be used as an additional revenue source.

Bioenergy is energy produced from biological sources. The sustainable production of biological material, which sequesters carbon from the atmosphere, and its use for energy production can result in a net benefit for the climate if it replaces fossil fuels and thereby avoids the emissions that would have occurred had fossil fuels been burned.

In summary Australia’s target to achieve the carbon emission commitments under the Paris Agreement shouldn’t be looked on as a tedious political task but rather an opportunity to make responsible environmental change. Additionally growing trees is only part of the story. Connecting the three layers of carbon footprint reduction that plantation grown timber offers - the growth phase, storing carbon as wood; the product substitution footprint, using the materials in buildings instead of steel and concrete; and the biofuel footprint, and valueing all stages of the timber cycle as a resource rather than a cost.

Simon Ward
How long have you been with LSI and how would you describe what you do?
I have been working with LSI for around 18 months. Working as a Technical representative for LSI, I work closely with customers to refine process technology and help them to improve treatments and achieve quality standards within their wood treatments.

How would you describe your time with LSI and what makes LSI different to other organisations you have worked for in the past?
Being very customer focused and an outdoors person, I found it very difficult in staying home due to COVID for 8 months of my first year with LSI. During lockdown LSI are focused on supporting growth and gave me free range to attend any courses or training via online learning and with constant check-up calls from my colleagues made my isolation very comfortable. I have a great team that fully support and guides me, thoroughly enjoying my journey with LSI.

What is it about your role that gives you the most satisfaction?
Most of my sites are family owned and operated, I gain an abundant amount of knowledge when they tell me about their journeys from when they were start-ups through to their existing business. Having this close relationship with my customers where they can trust and rely on me for advice. Having a sawmilling background, I find great enjoyment in finding ways to advise customers on ways to minimise cost and developing time saving processes on each site. My colleagues in LSI, are all amazing with their support, for both fellow staff and our customers, which shows when talking to customers.
5 minutes with...
Daniel Palm

How long have you been with LSI and how would you describe what you do?
I've been working with the LSI R&D team for just over two years now...I commenced in May 2019. My role with the R&D group is R&D Technical Services & Development Manager and, as the title implies, I manage the businesses R&D and Technical Support group for the Oceania region. I have within my team an exceptional group of scientists, specialists and experts in their fields, who drive innovation within the business and for our customers, and also support our customers through the provision of high quality technical support.

What is it about your role that gives you the most satisfaction?
Every day is different - the role, the demands, the challenges are never the same and it's certainly never dull. My expertise lies in the field of microbiology but in my role I'm expanding my knowledge and applications experience which I find very rewarding. Also, for me, I feel a significant degree of satisfaction when I see our R&D team collaborating, brainstorming and delivering on solutions for our customers that contribute to our customers success and growth in the market place.

How would you describe your time with LSI and what makes LSI different to other organisations you have worked for in the past?
My time with LSI has been very rewarding - challenging on occasion - but the rewards of addressing those challenges for the business, and our customers, far outweighs the challenge itself. It's often those challenges that can lead to innovative ideas and solutions. The LSI team think outside of the box and, within our team, we have a very diverse range of experience, knowledge and skills and it's that diversity of thought and idea that contributes to the success of the group. In previous organisations I've worked in there's been an appearance of siloing of expertise but with LSI there's a high degree of cross pollination and collaboration which makes the role, and the team, a very rewarding and exciting group of people to work with.
We often have enquiries on painting of outdoor exposed treated timber (H3/H4/H5 end use application). Below is a quick summary of some of the recommendations:

**Solvent Based Carrier Systems**
Solvet carriers are used to deliver preservative actives instead of water to the timber fibre. Commonly referred to as LOSP, Light Organic Solvent Preservative. This type of treatment has advantages for certain types of wood products as it does not affect the moisture content or the dimensions of the timber.

LOSP treated outdoor timbers are supplied either with a factory applied primer coating or as just the natural timber but often with a green tint or dye to indicate the presence of the treatment.

Prior to painting, LOSP treated timber is best stripped out (to allow surface drying), prior to installation (if possible), for approx. 7 days. Always refer to the paint manufacturers instructions.

**Pre - Primed**
Some Vacsol® Azure products are supplied as pre-primed. Note: that some primers used are only holding primers.

You should confirm with the supplier that the primer used is a good quality timber primer, otherwise it should be sanded back and re-primed with a premium quality timber primer as per the manufacturer’s directions.

**Primers (general)**
Acrylic primers are particularly susceptible to residual solvent and a minimum 7 day period prior to painting is recommended.

In general, good quality oil based primers may be applied 48 hours after treatment, however a further extended period of drying may be necessary when an acrylic based topcoat is likely to be used.

Always refer to the paint manufacturer for specific instructions.

**Clear penetrating water repellent oils and sealants**
Painting or staining should be completed within four weeks of installation. May require frequent re-application (6-12 months).

**Semi-transparent to full colour penetrating exterior timber stains**
Apply 2 to 3 coats as per manufacturer’s directions. These coatings are generally more robust than the above and are ideal for decking and other surfaces that receive traffic wear.

**Solid colour exterior acrylic paints**
Apply a good quality, oil based exterior wood primer followed by two coats of premium quality exterior acrylic paint according to the manufacturers recommendations.

**Solid colour exterior gloss enamel**
Not recommended.

**Clear or semi-transparent exterior gloss or varnish**
Not recommended.
Water Based Carrier Systems
Water based carriers are the most common system for delivering preservative actives to the timber.

Many treatments using water as the carrier such as CCA (copper chromium arsenate), Tanalith® E (copper azole) and Tanalith® Q (copper quaternary) are most commonly used to treat timber for outdoor applications (H3, H4 and H5).

While preservative treatment will protect against decay and insect attack for decades, outdoor timber is still subject to the effects of general weathering such as splitting, splintering, warping, fading and surface deterioration.

It is recommended that all timber in weather exposed situations is painted, stained or sealed to maintain best appearance and serviceability.

Timber treated with water based preservatives can be painted or stained like normal timber provided that the surface is dry and clean.

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Apply as per manufacturer's directions. May require frequent re-application (6-12 months).

Semi-transparent to full colour penetrating exterior timber stains
Apply 2 to 3 coats as per manufacturer’s directions. These coatings are generally more robust than the above and are ideal for decking and other surfaces that receive traffic wear.

Solid colour exterior acrylic paints
Apply a good quality, oil based exterior wood primer followed by two coats of premium quality exterior acrylic paint according to the manufacturers recommendations.

Clear or semi-transparent exterior gloss or varnish
Not recommended.

Re-sealing/End-sealing
Where a piece of timber is cut to length, rebated or drilled it is essential that the newly exposed surfaces are re-sealed with a suitable in-can timber preservative such as CN Timber Oil, Tanalised® Ecosel or Tanalised® Enseal Timber Protective.

After re-sealing, the applied area should be left to weather in the open or in a well-aired end use situation for at least 7 days before painting. Then follow guidance as per LOSP painting.

Solid colour exterior gloss enamel
Not recommended.

Clear or semi-transparent exterior gloss or varnish
Not recommended.

Shane McFarling
In this article we’ll explore some of the challenges that microbes can pose for paint & coatings formulations and delve deeper into the technical aspects of the test methods used to evaluate performance and efficacy of preservative systems.

As Bacteria and Fungi, collectively referred to as microorganisms, are an incredibly diverse group. They can be found growing in the hottest geothermal sites, the coldest climates, the saltiest, most acidic or alkaline environment and even in radioactive waters – they’re incredibly adaptable. But they are also found in some of our common household products such as household soaps and detergents, personal care products, adhesives, paint and a wide range of other water based systems. What are some of the problems that microbial contamination can lead to? Typically:

• Viscosity Loss
• Odour
• Discoloration
• Gas Generation
• Frothing
• Sedimentation
• pH change
• Consumption of preservatives
• Potential Health Issues

all of these elements have a direct impact on product quality, consumer perception of the brand and, potentially, public health.

In our previous article we looked at the role that biocides, and preservative systems in general, play in preserving water based products. We recognised that there’s no “one size fits all” and it’s important to validate the performance of any preservative system through robust, industry standard, test methods.

So how do we do that?
At LSI’s Melbourne Technical Centre we have a highly skilled, multidisciplinary team, who support our customers in preservative optimisation and application. We mentioned paints and coatings in our last article so let’s take a little bit more of a deep dive into those methods, but the principles of these test methods are relevant to a wide range of industries where preservative systems are essential.

ASTM D2574 “Standard Test Method for Resistance of Emulsion Paints in the Container to Attack by Microorganisms” is used to assess the effectiveness of a wet state or in-can preservative system to prevent microbial spoilage of a product whilst in storage or at the retailer for sale. The right preservative system prevents the growth of microorganisms “in the can” which could lead to those issues discussed previously. The aforementioned method involves the intentional addition of at least five different species of bacteria and four species of fungi. These are added at multiple time points over a four week period and the response of the paint sample, or the ability to suppress that microbiological growth, is assessed through traditional microbiological culture techniques. By intentionally “challenging” the preservative system we can assess its robustness in the customers formulation ensuring a robust and efficacious preservative system is achieved.

It’s also important to assess the performance of a paint once it’s applied to the intended substrate. To assess this ASTM D5990 “Standard Test Method for Determining the Resistance of Paint Films and Related Coatings to Fungal Defacement by Accelerated Four-Week Agar Plate Assay” is undertaken. In this method paint is applied to a substrate and exposed to a minimum of four different fungi species and two algae species. Over a period of four weeks the growth of the fungi and algae are rated as a percentage coverage of the paint film and the growth media. The intent of this method is to understand how the paint coating responds to contamination and assess the robustness and performance of the dry-film preservative system. It’s the dry-film biocide system that prevents the growth of mould or algae on exterior surfaces or in high humidity environments.

LSI also has expertise and capacity to deliver other specialised methods to assess the antibacterial and/or antiviral capacities of surface coatings for specialised customer applications.

In our next article we’ll explore the role that preservation systems, fungal and insecticidal, play in timber applications and take a look at LSI’s expertise in addressing these challenges for our customers.

Daniel Palm

LSI Melbourne Technical Centre
What’s that smell?

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LSI’s model of ongoing evaluation for wood preservative products continues long after registration and performance testing, ensuring all products sold into the market are the best solution for each of our customer’s needs.

Tanalith® Q wood preservative typifies this model. During a review into CCA alternative treatments offering better end of life characteristics, it was recognized that products such as Tanalith® Q (Ammoniacal Copper Quaternary) and Tanalith® E (Copper Azole) may provide more sustainable options for customers. Tanalith® Q (Ammoniacal Copper Quaternary) has approval in Queensland’s End of Waste Code which supports composting of treated timber residues, providing customers in Queensland with end of life options for treated timber.

Similar approvals for Tanalith® E are pending in line with LSI’s ambition to develop a range of sustainable timber treatment products with defined end of life options. LSI is also investigating similar activities for our other preservatives and insecticides such as Tanalith® Ti Insecticide, used in H2F framing, and the Vacsol® Azure Wood Preservative family used in H3 structural timbers.

Tanalith® Q is now being manufactured in the Trentham factory in Victoria and utilizes raw materials developed and supplied by the LSI Hygiene division. This provides stability of supply and efficiencies for both LSI’s local Wood and Hygiene divisions and further strengthens our supply chain for products and services. The synergies between the wood and hygiene division also opens the door for ongoing innovation and product development for the wood preservation market in Oceania.

Disclaimer:
The companies and assets comprising the Lonza Specialty Ingredients Business (LSI) were acquired by Herens HoldCoLtd. (Buyer), an entity controlled by Bain Capital Private Equity and Cinven, and LSI is no longer part of the Lonza Group Ltd. Neither Lonza Group Ltd nor any other member of the Lonza Group shall have any responsibility for this document, the use of any Lonza labels, or any other act or omission by LSI or the Buyer.

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