



Clip-Lok SimPak[®]

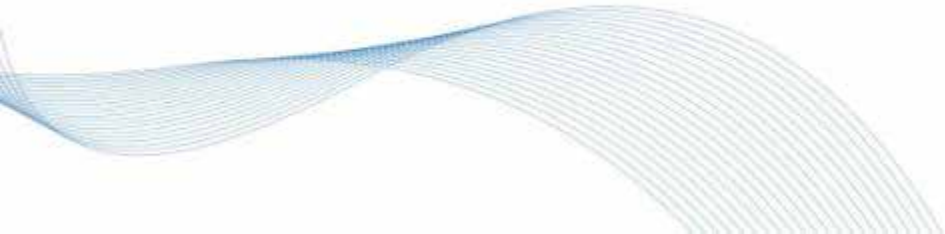
Automotive industry

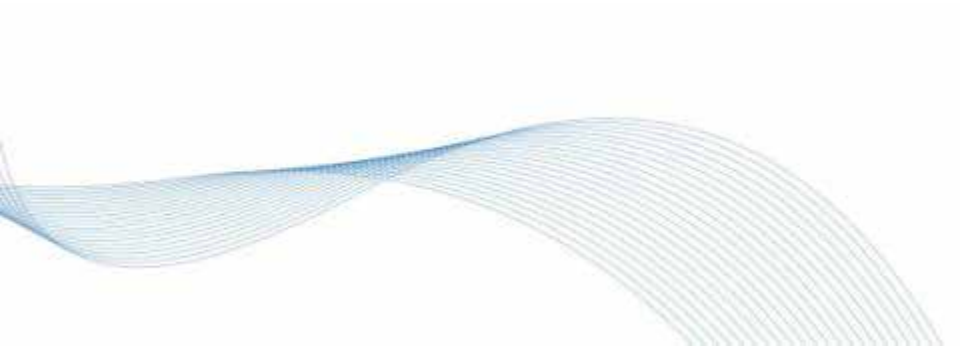
- Valtra implements LEAN
production

Valtra tractors



N Series

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- Valtra, merger by Volvo BM and Valmet tractors.
 - Sold off to AGCO 1999.
 - AGCO = Valtra, MF, Fendt etc.
 - One of world leading mfg of agricultural eq.
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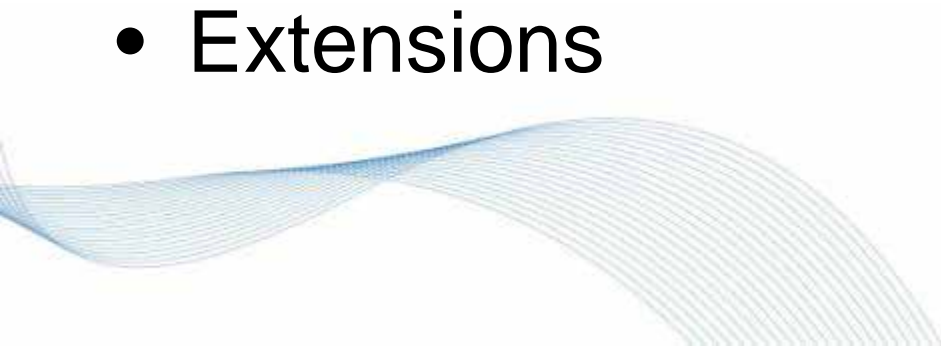
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- Valtra, client of CLSS since 2007.
 - Previously used one way crates and eur-pallets.
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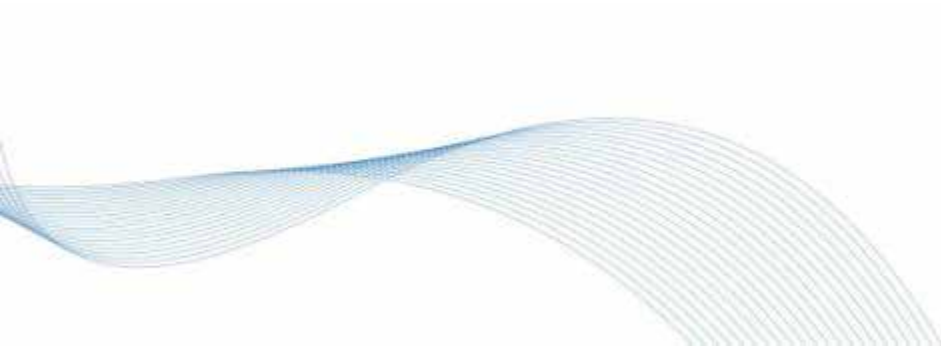
Previous one way crate

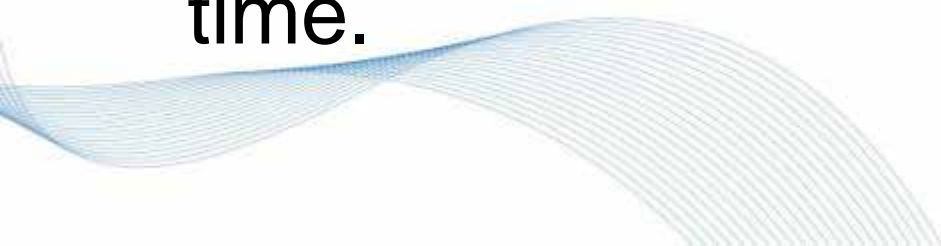


Initial re-useable steel rack



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- First project related to the front loader.
 - A-series
 - T-series
 - N-Series
 - S-series
 - Extensions
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- Second to body:
 - Side plates
 - Hood
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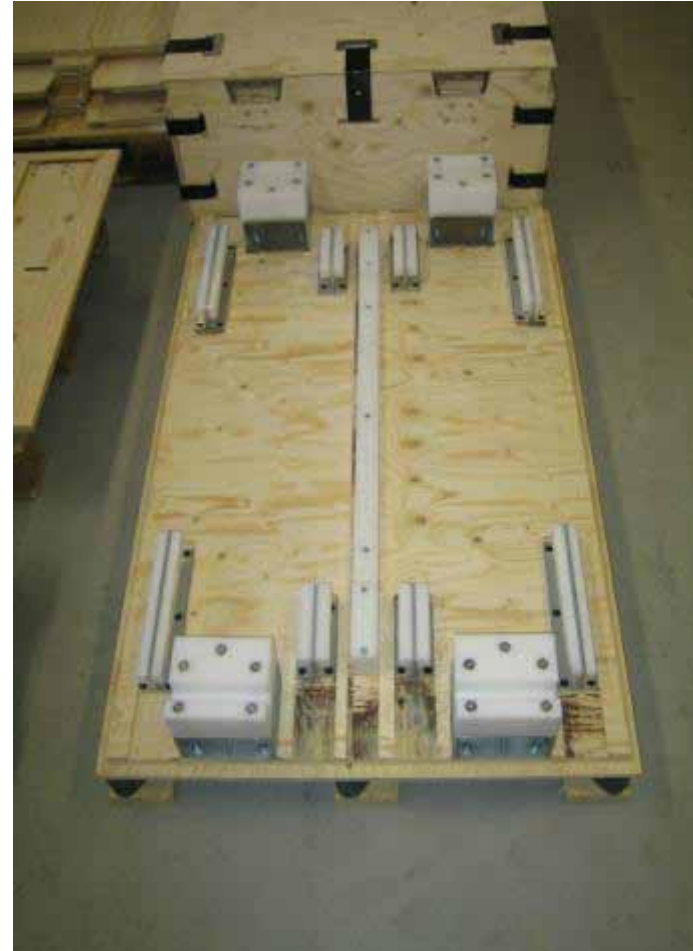
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- First incentive:
 - Reduce amount of one way pck material – saving money.
 - Reduce numbers of scratches on the parts prior to assembly.
 - Allow the boxes being part of their racking system on the production line. – saving time.
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N-series

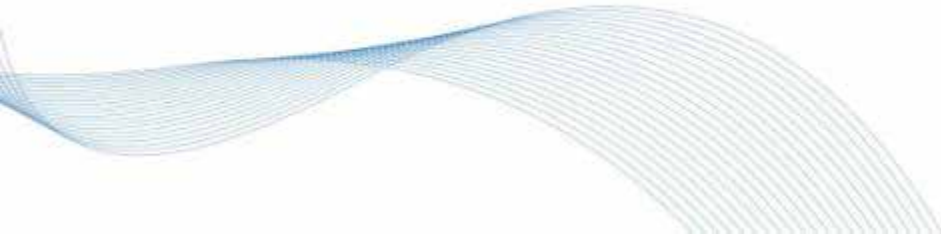
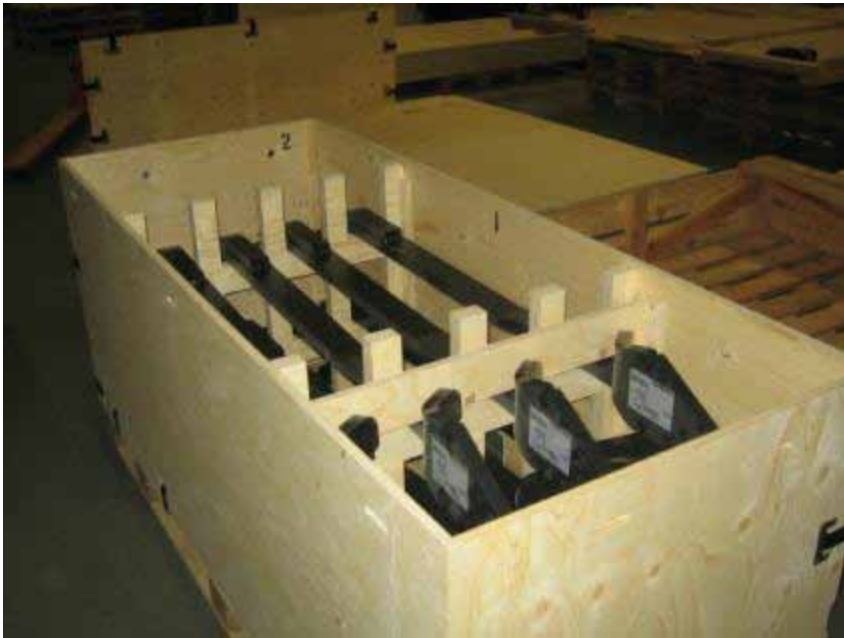


- 2-P double hinged box.
- Integrated, comprehensive dunnage steel/plastic/plywood.
- 1220x820x1480mm to fit the assembly line racking system.
- Bulky, heavy and touchy.

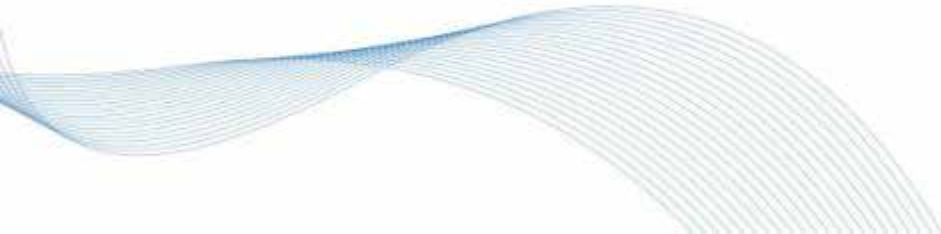
Dunnage N-series



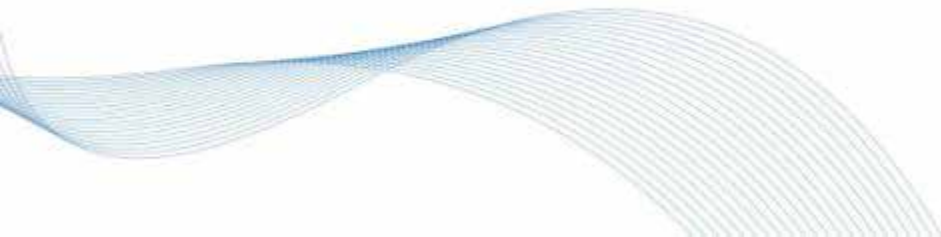
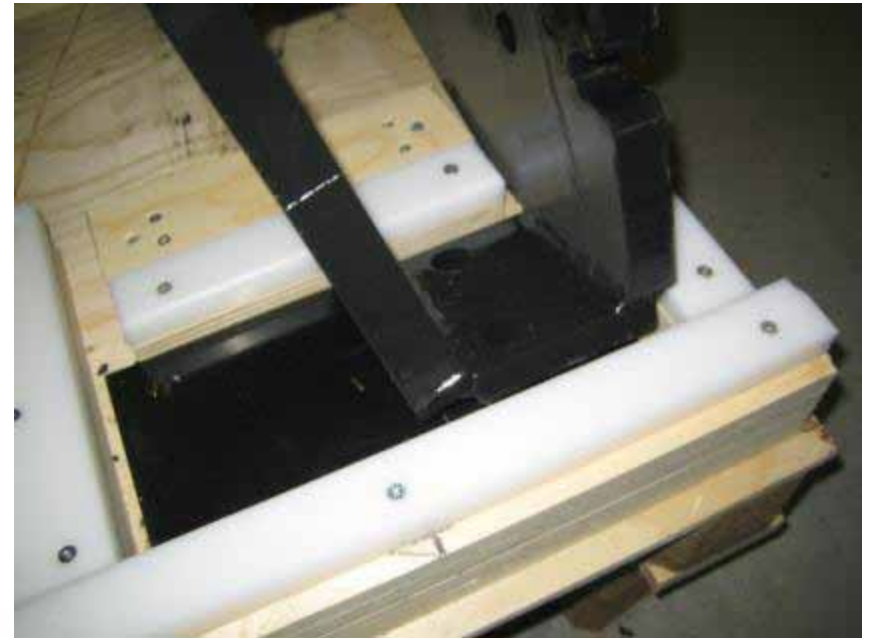
Extensions



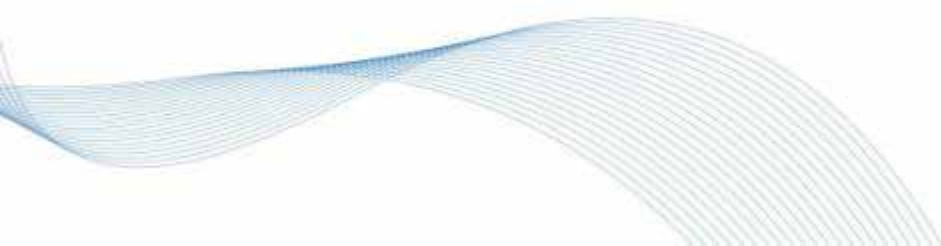
NS-series

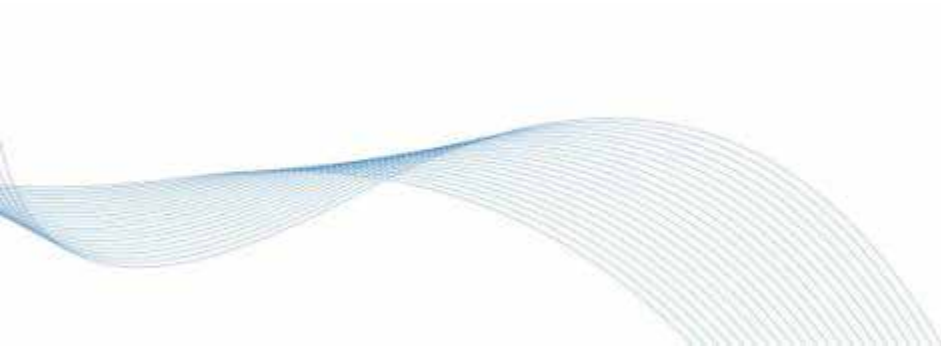


T-series

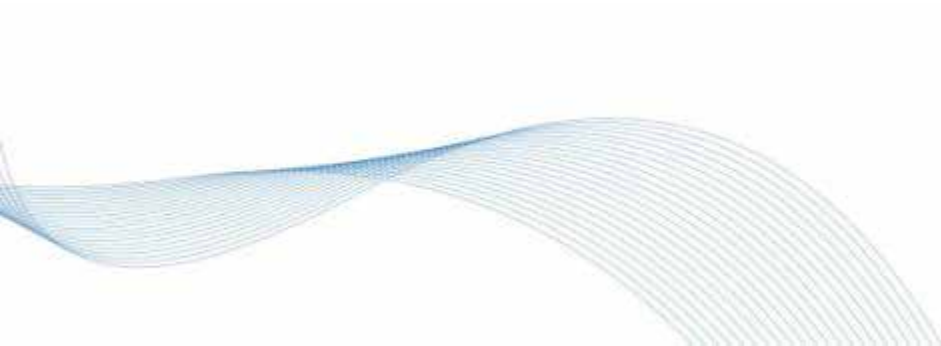


A-series

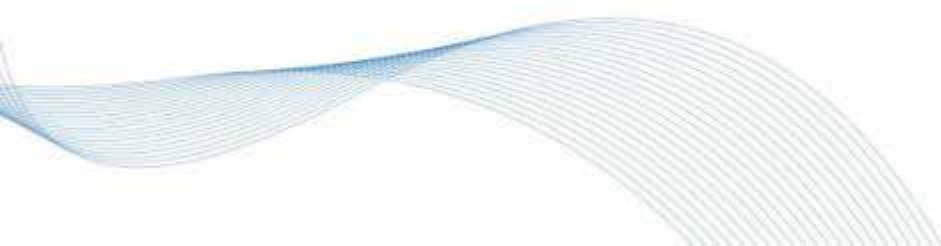


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- Time frame
 - Q1 2008 boxes for all models were developed and incorporated in the flow.
 - Q1 2009, Agco decides that Valtra shall take a step into LEAN production.
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Lean production

- Frederick Winslow Taylor wrote the "Scientific Management" which inspired Henry Ford to create a production system.
 - Post 2nd Ww the japanes turned their military production into civil using the HF filosofy and creating TPS, Toyota production system.
 - 1979 MIT defined LEAN as measure during surveys and as a comparsion between different automotive producers.
 - The concept has been known to public since 1988.
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Lean production

- **Lean manufacturing** or **lean production**, which is often known simply as "**Lean**", is a production practice that considers the expenditure of resources for any goal other than the creation of value for the end customer to be wasteful, and thus a target of elimination.
 - Working from the perspective of the customer who consumes a product or service, "value" is defined as any action or process that a customer would be willing to pay for.
 - Basically, lean is centered around creating *more value with less work*.
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Lean production

- Whats in Lean for Clip-Lok?

Lean production

- The implementation of Lean depends on application, however in Valtras case, they choosed to stay and expand with Clip-Lok due to the following reasons:

Package tolerance

- The use of AUV:s requires high packing tolerance.



Same concept

- Same concept of package is in use for all models – all personell knows how to handle it.



Racking system

- All boxes fits the racking system on the line...



Racking system

- And in the storage racking as well.



Ridgid dunnage

- Majority of the bulky, unbalanced parts weights 150kg each.
- A stiff, ridgid dunnage is required for personal safety reasons.



Clipped box – fast handling

- Easy open gives immediate access to the parts.



Ridgid dunnage

- The box design allows the AUW to place a half-empty box on stock if its not empty.



Side plates

- Side plates, laquered sensitive part.
- Comes in sequence from supplier, L&R two sides access.



Conclusion

- Within Valtras implementation of Lean, Clip-lok has proven its strenght as supplier of packaging products well in line with the demands and requirements stated in this process.
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