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**Welcome to the 8<sup>th</sup> issue of the Greycon newsletter: GreyLetter. Checkout our article on page four - "How can you plan the creation and loading of a pallet in an optimal way?"**

**Editor: Carla Matthews, Greycon Marketing Manager**

## Greycon boosts equipment efficiency at Jianhui Paper

Greycon is currently implementing its trim solution, X-Trim, on four Paper machines at Jianhui Paper in Dongguan city of China. Dongguan Jianhui Paper is one of the biggest Paper and Pulp manufacturers in China.

Greycon will implement X-Trim for trimming optimisation integrating with Jianhui Paper's ERP system, Inspur. Implementation began in July 2017 and the project is expected to go live late January / early February 2018.

Mr Liu Mingwei, CFO at Jianhui Paper said: "We are looking forward to reaping the benefits of Greycon's system. Greycon has made the implementation process as easy as possible by integrating with our own ERP system. Greycon's system will give us more time for business analysis and strategic thinking."

Greycon's new system is expected to bring numerous benefits to Dongguan Jianhui Paper at multiple levels. Reducing trim waste, minimising pattern and knife change numbers, and in-turn greatly increase Jianhui's overall equipment efficiency. Trimming from stock will reduce the stock amount and cost significantly. Meanwhile, X-Trim will minimise manual dependence and personnel faults during the trim process and improve the customer service level.

"X-Trim is integrated with Inspur ERP, through the integration. X-Trim can be localised fully to meet the needs of each machine. In general, the new automated and

integrated system processes will provide Dongguan Jianhui Paper the ability to focus over strategic and operative group improvement, increase industrious competitiveness and bring more time for business analysis and strategic thinking," commented Tian Jinlong, Greycon Business Development Manager China.



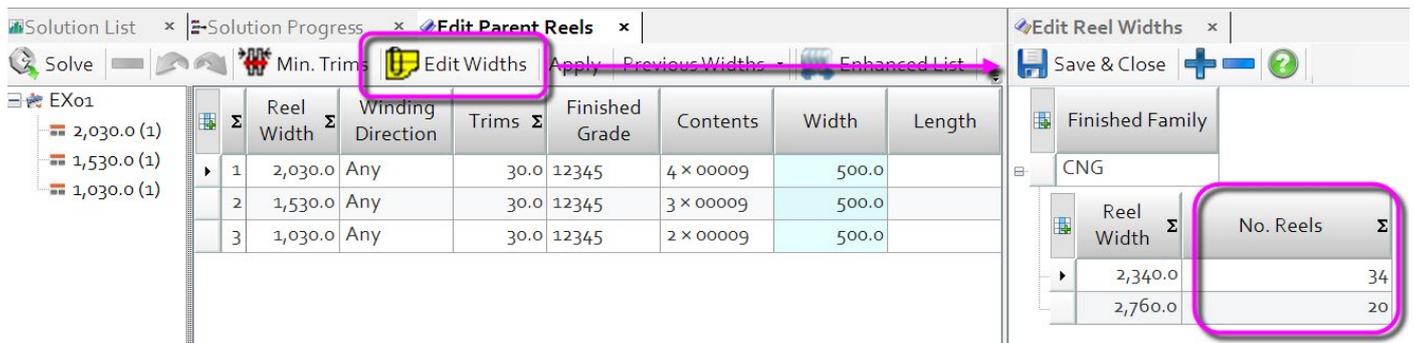
# Standard parent reel sizes

A recent engagement with a mill that produces mainly A4 paper for offices, decouples the paper machine from the sheeting operations via Process Reel Stock (PRS). PRS are intermediate reels compatible with the (varied) sheet cutters and typically a multiple of A4 width (210 mm). For example, an 11-pocket sheet cutter would require  $2,340 \text{ mm} = 11 \times 210 + 30$ , a 13-pocket line requires 2,760 mm.

Standard parent reel sizes in X-Trim handles this well.

These parent reels are wound onto plastic cores (whose width corresponds to the parent reel widths), for which there is limited availability. For instance, at a particular time, there might only be 34 cores of 2,340 mm and 20 cores of 2,760 mm.

X-Trim can handle this. Constraining the PM efficiency due to unavailability of plastic cores is not always a good thing to do, but X-Trim can quantify the impact.



## New version of X-Trim and opt-Studio

Greycon has updated its platform with the 9.2 release of its planning tools, X-Trim and opt-Studio.

X-Trim new developments include:

- Load planning Phase II: optimal decomposition of the trim solution into container / truck loads.
- Length tolerance: the system can consider mixed-length reels when reel lengths / diameters vary slightly (also known as slabbing).
- Algorithmic performance improvement: the new version is 6.3% faster on smaller problems and 19.9% faster on difficult problems.

opt-Studio new developments include:

- New entities: ship-to groups for load planning, distribution centres and supply networks. These lay the foundations for the integration with the recently-announced Greycon Forecasting tool. The resulting future inventory profiles for remote warehouses and vendor-managed inventory become part of the system and are fully manageable.
- Synchronisation: the new release extends multi-user capabilities, providing automatic conflict resolution.
- ATP/CTP: Additional capabilities for multi-site implementations.

Constantine Goulimis, Greycon's CEO said: "Growth in both our installed user base and internal development resources has enabled us to deliver this version to the market quickly. Improvements include new features as well as enhancements. Trials at one of Greycon's plastic film clients resulted in a waste reduction from 8% to 3% in one instance, results that are in keeping with our goal of striving to maximise efficiencies, be it by improving material utilisation, productivity or rapid responses to unforeseen problems."

## Get your clock up to speed

opt-Studio is very demanding in terms of CPU. In a typical planning session, lots of in-memory calculations are done which makes the clock speed the number one driver of your system's performance.

Greycon's opt-Studio Product Manager, Alfredo Olivera recounts: "Recently a customer requested our help because their 3.5 GHz server was not performing as expected - scheduling their 10,000 orders was taking 21 seconds. That same dataset ran much faster on our test servers, so we logged into their system to investigate."

"Using the single-thread benchmark test of the well-known Passmark tool, a program which stresses the server, measures the time it takes and assigns a score, we found the score of the server was 1,400. This was striking as that same CPU model had an average score of 2,000 on the Passmark database showing that other people were getting more from that CPU."

"We found that while the CPU max clock speed was 3.5 GHz, it was running much more slowly (around 1.16 GHz) due to a feature of some microprocessors called 'Dynamic Frequency Scaling'. This feature adjusts the clock speed automatically, depending on needs to save energy, but it was not working well on that particular version of Windows. By disabling it, the score climbed to 2,150 and the time dropped to 13 seconds - a 40% improvement!"

So although their processor was fast in theory, it was slow in practice.

# opt-Studio optimises production planning at SAICA

SAICA selected Greycon to implement opt-Studio, Greycon's advanced scheduling planning system. All systems went live for the first pilot mill in France as planned in July 2017. With this initial go-live, SAICA has improved visibility over French production planning, actioned completely remotely from its Spanish offices.

SAICA and Greycon have been partners for more than 12 years. Initially SAICA used Greycon's opt-Studio trimming capabilities to reduce material waste and machine throughput.

In 2015, SAICA engaged Greycon to implement a complete Supply Chain Management solution, to sustain its increasing Make-to-Stock market. At the same time, it needed tools to forecast and plan its dynamic Make-to-Order market appropriately.

Abder Guezour, Global Business Development Manager at Greycon states: "We have been close business partners for many years. The success of this project makes an even tighter relationship with SAICA for the long term, envisioning similar

implementations in other key business areas. SAICA's Supply Chain Management and team had a clear understanding of the business objectives, which is key for the results they are obtaining by using the full extent of the new systems."

opt-Studio planning and trimming solution seamlessly integrates with SAICA's in-house ERP and a Supply Network Planning system. Using the sourcing needs provided by Supply Network and Demand Forecasting systems, opt-Studio produces an optimised production plan automatically, considering machine restrictions, setup costs and order due dates, improving service levels dramatically, addressing inventory replenishment due dates and reducing machine downtime.

Fernando Pelegrin, Information Systems Manager at SAICA said: "Completing our planning solution with Greycon's software ensures the system's future sustainability and maintenance cost reduction, with a long-standing partner. This new state-of-the-art tool will enable us to evolve quickly with our customer's needs."

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## Greycon expands team in India

Greycon has expanded its team in India, utilising India-based consultants in a continued effort to improve client relations and further business progression.

The three new consultants are Sharad Mittal, Business Development Manager; Prem Shankar Mer, Technical Sales Support; and Abhijit Patwardhan, Consultant.



Abhijit Vijay Patwardhan has eleven years of industry experience, of which he has spent eight years in Supply Chain Management (SCM) optimisation, along with experience in MES implementations, Plan and Schedule optimisation, Integration Design for automation landscape and L1 automation designing.

Prem Shankar Mer has ten years of industry experience and has been associated with production planning and business process improvements since 2007. Prem has a good understanding of Supply Chain Management and worked with leading packaging and flexible films companies like SRF, Euro Packaging in India and across the world as Planner serving major global customers.



Sharad Mittal has over thirty years of industry experience and has been associated with sales and implementation of Supply Chain planning and optimisation software since 1997. He has a deep understanding of Supply Chain best practices and systems. Sharad works with clients in the use information technology tools, coupled with business process improvements, to make quantum improvements in supply chain performance. Sharad has been associated with sales and implementation of Greycon solutions in the plastic film and paper industry in India over the last eight years.



Sharad Mittal, Business Development, India at Greycon commented: "What I have admired most about the Greycon products is the value for money they deliver, the extremely short payback periods, ease-of-use and the depth of their optimisation capability. This is backed by a highly knowledgeable and devoted workforce. I am really happy to be associated with Greycon."

Greycon has been winning new business with major players in India in the plastic film and paper industry by combining knowledge and skills of the India resident experts with its powerful planning and optimisation tools. Greycon has executed this model successfully to develop and grow globally over the last 30 years to over 500 sites in 40 countries. Currently there are 2000+ planners worldwide using Greycon systems every day. This number is rising continuously as is Greycon's presence in the global market.

## How can you plan the creation and loading of a pallet in an optimal way?

Here is an example of a customer in the Packaging Industry who uses X-Trim to plan and GreyconMill for execution to trigger the production of pallets that contain narrow width reels used for the creation of cores. Vassilis Gkamouras, Senior Consultant at Greycon, says: "This example shows how Greycon solutions optimise planning and remove some of the pressure from the shop floor operators."

The problem constrains are:

- New pallets will be created, each grouping a different number of reels, depending on the sales order
- The items placed on the same pallet need to have:
  - The same width and basis weight
  - The same quality
- The reels need to be produced in the same pattern in pairs or other multiples so that they are in adjacent positions and palletising them is easier.

Planning the narrow width reels in X-Trim is very easy. There is a configuration screen to define the number of reel multiples,

which are assigned to the same order and are planned for production in the same pattern (multi-pack reels). The planners can also define whether the constraint is hard or soft, in case they would like to allow the prioritisation of other limitations over multi-packing.

On the execution side, GreyconMill enables operators to group together the produced reels at the winder based on a configurable set of item or order properties. Illustrated below is an example showing how the system allows the selection of the reels to load on the 'virtual' pallet before its creation, as well as the items already 'loaded' on it:

The screen filters the available reels to place on the container and shows all produced reels with the same 'Order Grade', allocated to the same 'Order Number', and which have been created trimming the same parent jumbo roll. The specific order requires a maximum number of four items on each pallet based on the size requirements for its shipment.

The operator selects any of the available groups of reels, presses the 'Add' button and they are displayed on the list of selected reels for the pallet.

If the selected group contains more items than the maximum required for the container, GreyconMill will select the maximum number of items, four in our example, to load on the container which is ready to be created physically.

If the container does not yet contain all the required reels, the operator 'parks' it in the system and waits for the production

of the next jumbo roll containing narrow-width reels from the same order with the reels already loaded on it.

This process makes planning, filtering and grouping much easier for the planners and shop floor operators, saving both time and money.

Thank you for reading, if you have any comments or questions regarding this current newsletter or future editions please do not hesitate to contact us.