

# HIGHEST CAPACITY PARTICLE BOARD CUTTING PLANT IN SOUTH EAST ASIA

The Southeast Asian market has always been an important market of Anthon's. One of the biggest projects over the years was the high capacity sanding and sawing plant for the new particleboard plant in Trang (South Thailand), ordered by Green River Panels Thailand in 2017. The project has once again shined a spotlight on Anthon's know-how in the field of high capacity sawing systems.

Anthon GmbH, based in Flensburg, specialises in complex machine and plant systems for the panel processing industry. Significant emphasis is placed on board sizing systems including feeding, stacking and sorting systems for a wide range of materials in the wood and building materials processing industry.

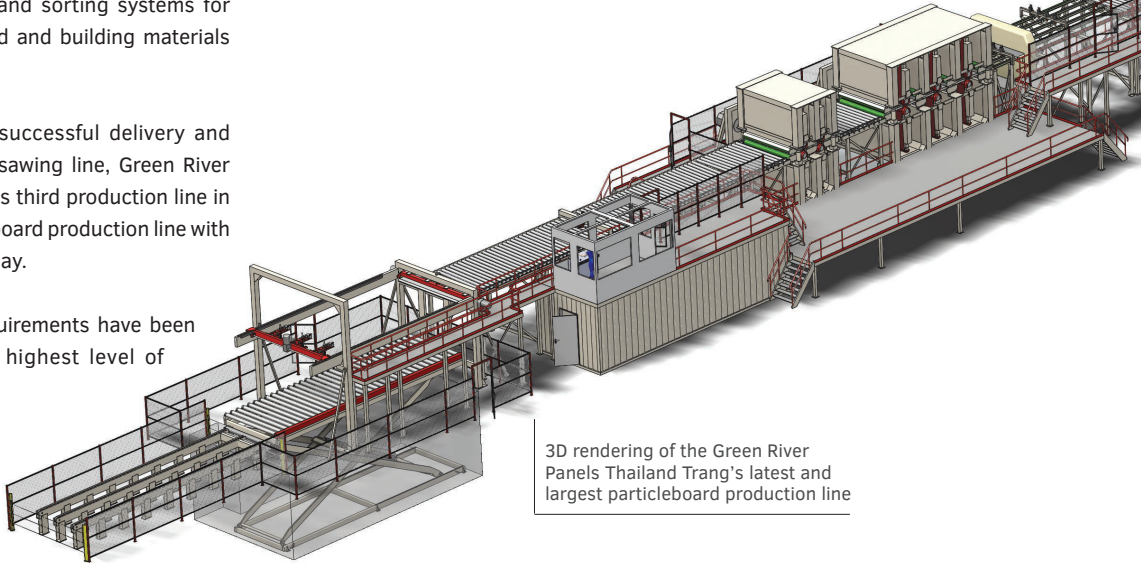
By the end of 2019, with after the successful delivery and installation of Anthon's sanding and sawing line, Green River Panels Thailand started operation of its third production line in Trang, which is also its largest particleboard production line with a sawing capacity of up to 2,800 m³/day.

All of Green River's requests and requirements have been implemented and optimised to the highest level of productivity:

- high capacity feeding of single boards
- high speed double side sanding
- automatic surface inspection
- automatic quality grading
- high capacity angular cutting
- destacking of different quality grades
- lowest tolerances of sanding, cutting and destacking

## ANTHON THROUGHFEED SAW MODEL PVL/PVQ - A HIGHLY EFFICIENT CUTTING SOLUTION

PVL/PVQ, the throughfeed sawing system, is more often used to cut single boards or mini boards, compared to the pressure beam saw system. This results in significantly lower drive power of the sawing units and thinner saw blades - energy and raw materials are reduced. Currently, sawing systems are equipped with saw blades of approximately 3.0 to 4.0 mm width, whereas saw blades with twice the thickness are not uncommon with pressure beam saws. This is one of the reasons why well-known manufacturers and now, Green River Panels Trang Thailand, chose Anthon's throughfeed saws systems.



3D rendering of the Green River Panels Thailand Trang's latest and largest particleboard production line

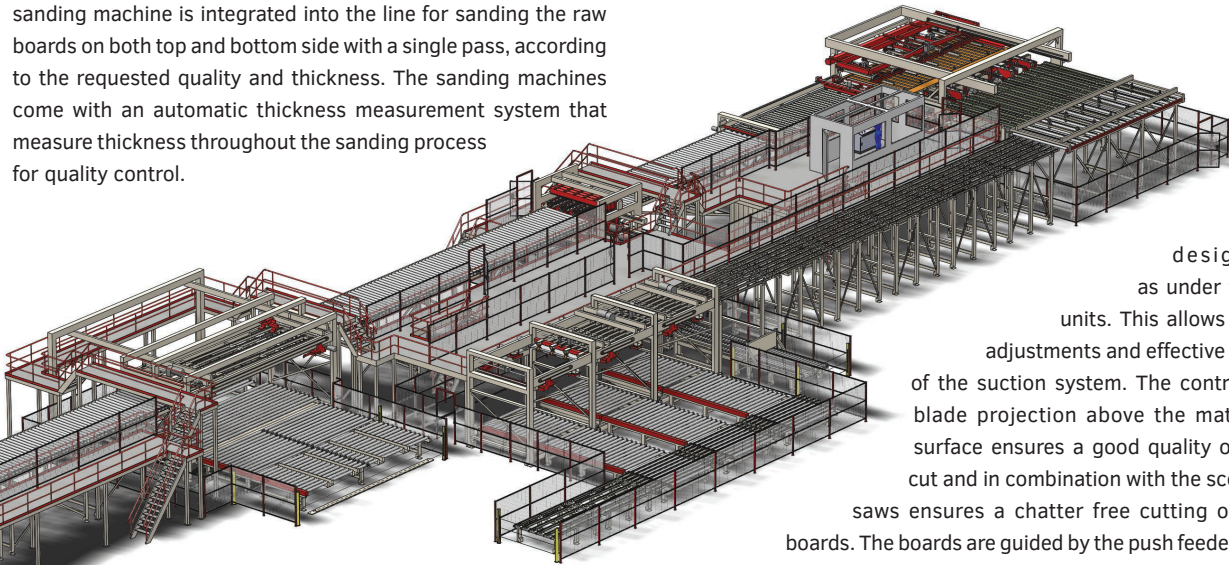
## LONGEST, WIDEST, HIGHEST, HEAVIEST PARTICLEBOARD STACK IN SEA

The fully automatic sanding and sawing line has been in operation at the newly built chipboard plant in Trang since the end of 2019. At this plant, up to 2,800m³/day of chipboard are sanded, sawn to various formats and destacked with the highly efficient Anthon equipment.

The particleboard stack at Green River also sets the record of being the longest, widest, highest and the heaviest one in Southeast Asia. At 7.4m long, 2.5m wide, 5.0m high and weighing 60 tonnes, the particleboard stack is used to transport particleboards from the storage to the Anthon sanding and sawing line for final sizing and processing before delivery to Green River's customer worldwide.

## FULLY AUTOMATIC SANDING AND SAWING LINE

At the infeed of the line, a Storage Transport System delivers the Masterboard stack to the infeed system of the Anthon Sanding line. When the stack is lifted, a push-feeder pushes single boards onto a roller conveyor where they are accelerated to a speed of approximately 120m/min. The newest generation of a ten-head sanding machine is integrated into the line for sanding the raw boards on both top and bottom side with a single pass, according to the requested quality and thickness. The sanding machines come with an automatic thickness measurement system that measure thickness throughout the sanding process for quality control.



book through the cross cut saw. The cross cut saw is also equipped with 2x hogging units at the outer sides and 3x main saw aggregates. All cutting units are also equipped with soring saws to guarantee a perfect cutting quality. No separate waste disposal is necessary due to the use of chippers at the outer units. The aggregates are

designed as under table units. This allows easy adjustments and effective work of the suction system. The controlled blade projection above the material surface ensures a good quality of the cut and in combination with the scoring saws ensures a chatter free cutting of the boards. The boards are guided by the push feeder and are transported through the saw. This ensures continuous transportation without vibration and highest cutting quality.

## AUTOMATIC SURFACE INSPECTION THROUGHOUT THE SANDING PROCESS

After the sanding process, the board surface is automatically checked for defects with an automatic surface inspection system. If a board shows defects, these boards will be separated and transported into a drop box system for stack building of b-quality boards.

Boards without defects are further transported to and though the Anthon longitudinal through feed saw Model PVL. This first rip cut saw is equipped with 2x hogging units on each side and a main saw aggregate which performs a centre cut. All cutting units are also equipped with soring saws to guarantee a perfect cutting quality. The boards are transported by a top pressure system through the saw. This ensures a continuous transportation without vibration. Behind the saws, adjustable guides are installed to avoid board displacement during sawing, results in highest accuracies and stable sizing within minimum tolerances.

After passing through the rip saw, the cut single boards are transported to a so-called book building station. Single boards are stacked up to a maximum height of 65mm. When the preselected book height is reached, the mini-book or single board is transported to the preparation of the cross cut saw Model PVQ which has a width of approx. 7.600mm.

## ENSURING THE HIGHEST CUTTING QUALITY

Prior clamping and cutting the mini-book or single board is aligned in longitudinal and cross direction. The aligned mini-book or single board is fixed by a push feeding system which pushes the

## DESTACKING AND GRADING MADE EASY

After the final cutting the mini-books or single boards are transported to the destacking section for stack building of the final board size. In 3x drop box systems, the stacks can be graded to different quality grades. Prior destacking, the drop boxed are supplied with bottom protection boards on which the mini-books or single boards are stacked. Every mini-book or single board are aligned. An adjustable rake aligns the boards against fences in longitudinal and cross direction. All drop boxes are built with driven roller conveyors mounted on lifting tables. If the final stack height is reached, the stack is transported in cross direction out onto the connected chain conveyor and further into the storage.

## WHOLE LINE CONTROL USES NEWEST PROGRAMMABLE LOGIC CONTROLLER

The whole line control is based on the newest programmable logic controller Siemens Simatic S7-1500. All operating elements are mounted in a control desk placed in the middle of the line, giving the operator an overview of the total sanding and sawing plant.

With an actively cultivated mix of competence in heavy mechanical engineering and innovative EDP-solutions, Anthon has been opening up new markets since 1865. In line with the motto "Tradition and Innovation", the Anthon's drive to improve and optimise products has been persistent. Its 150 employees in Flensburg work together on development, production and worldwide sales of the company's product range.

All images are credited to Anthon.



# Want the latest news?

We bring you the latest world-class stories from the global industry



[www.panelsfurnitureasia.com](http://www.panelsfurnitureasia.com) | [info@pabloasia.com](mailto:info@pabloasia.com) | +65 6266 5512