“Fill the line”: A Modern Production Philosophy to Boost the Efficiency of Your Coating Line

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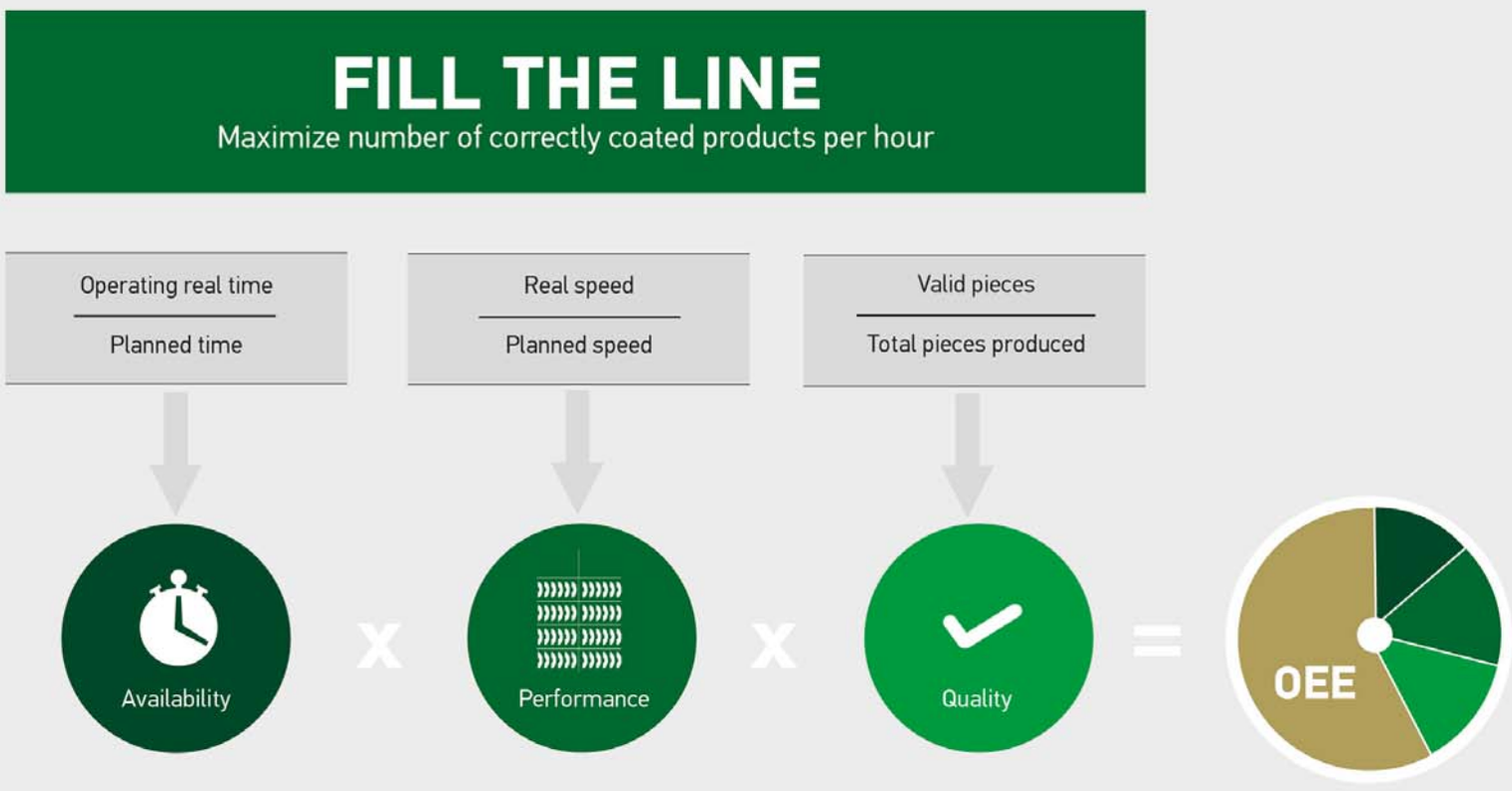
Hillerstorp - Sweden

"Be more efficient” is the mantra of our time in the industry. However, do you know what “Coating efficiently” really means? With “Fill the Line” HangOn has developed a denser hanging technique that can make a coating line more efficient and profitable with a potential 50% reduction of the total coating costs, according to the type of installation, and specific customer case.

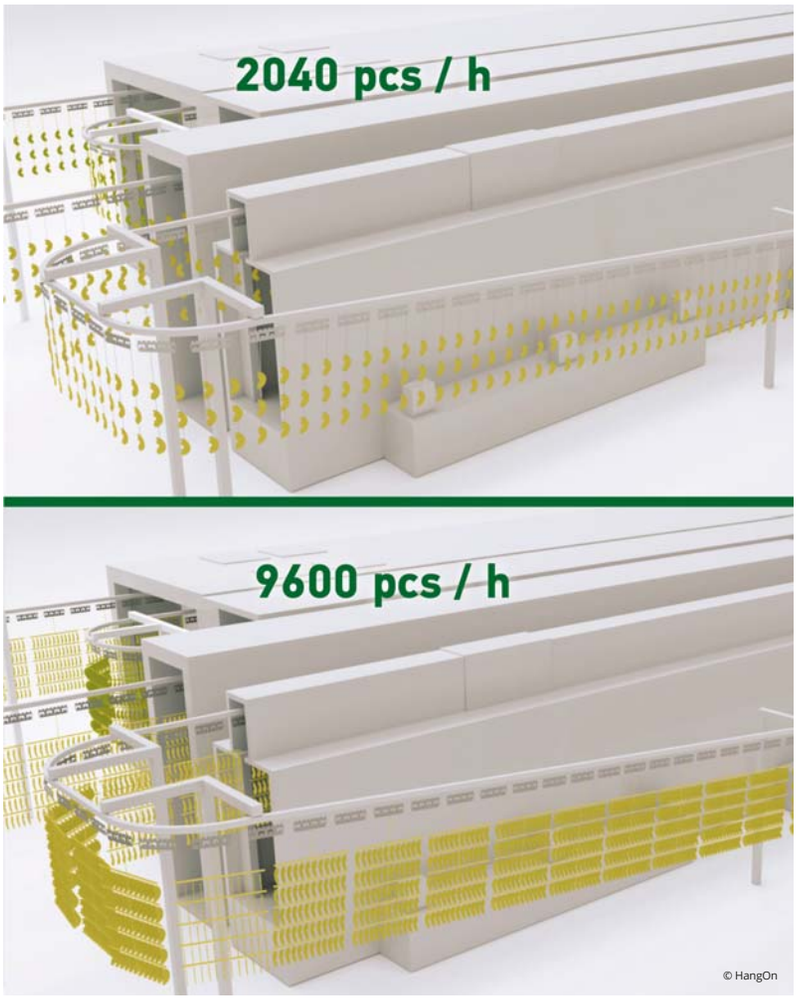
“Be more efficient” is the mantra of our time in the industry. Efficiency is defined as the ratio between the result obtained and the resources used to obtain that result. In the changed reality we are currently living in, it is important to send a message for efficiency to companies that are struggling with markets uncertainty. However, do you know what “Efficiency in production” really means?

In an industrial complex, it means to minimise costs for the same results or maximise results for the same costs. That is to say, a good use of time, energy, materials and labour in a way that does not waste any.

On a coating line, hanging density is the first factor to make the coating process more efficient, more profitable, and less labour-intensive

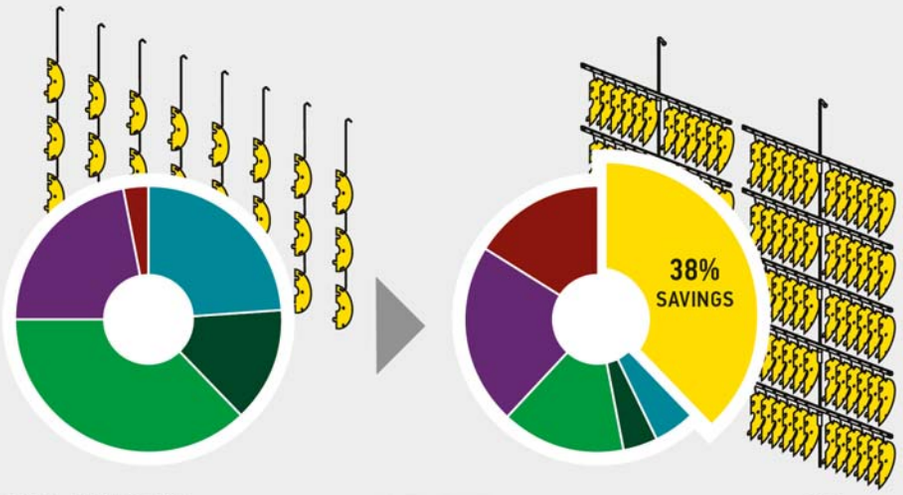


with an investment that is low compared to the savings that it allows. Being active on 40 different markets and with thousands of customer projects completed every year, HangOn knows that many coating lines are not profitably used. By improving hanging density, a company can achieve savings up to 50% of the total coating costs and increase its output 5 times. The concept of "filling the line" is a modern production philosophy related to lean manufacturing practices that should be the overall mind-set operating a coating line. Actually, fixed coating costs as investments for the installation and energy consumption are becoming every day more expensive: a good hanging density is a part of a strategy to increase the profitability of a coating line.
With its smart hanging solutions, HangOn puts efficiency on the coating line. Creating smart and more efficient solutions for coating lines is our speciality. At HangOn know-how and industrial coating process experience run deep, which means that we quickly find the smartest solutions that give you the best result: a smart change today, for a stronger efficiency tomorrow.



Fill the line: how to?

At HangOn to "fill the line" means to maximise the number of correctly coated products per hour. To implement this production philosophy, you first have to measure your process productivity (that is, the OEE – Overall Equipment Effectiveness) which, from a theoretical viewpoint, is a well-accepted measure. Productivity losses can come in many different forms in a coating line and the first step is to understand what they are. This is not a widespread practice in the coating business yet but estimations can work to analyse where the potential for improvements is.
OEE calculation answers two big questions:
1. Am I using the equipment in an effective way?
2. Where do I have to take action to improve equipment effectiveness?
OEE is one indicator of the TPM (Total Productive Maintenance), a tool of the Lean Manufacturing philosophy. Within the TPM, a tool called the "Six Big Losses" can be of great help.
A machine (or production line) does not produce values if one of the following losses occurs:
- Breakdown
- Changeover
- Minor stops
- Reduced speed
- Scrap, rework, yield
- Start-up losses.



DAISY CHAIN HOOKS	COATING COST	HQC
24 %	Fixed line cost	5 %
14 %	Energy	4 %
37 %	Blue collar	15 %
22 %	Powder	22 %
3 %	Cost hanging point	16 %
100% TOTAL COATING COST		62% TOTAL COATING COST
		38% SAVINGS

The "Six Big Losses" can be grouped in three categories: Availability, Performance and Quality.
Painting and coating companies seldom measure the OEE and lean initiatives in this industry are rare and difficult. Nonetheless, after conducting an analysis of the six big losses in a coating line, it is HangOn's experience that often the speed factor stands for the biggest potential for improvement by increasing hanging density.

This is where the "fill the line" production philosophy is grounded. HangOn has developed a calculation tool based on full coating line data where the effect of different productivity measures can be calculated. By inputing 6 different parameters regarding the coating line and by analysing product assortment, the method calculates energy, labour, powder coatings and fixed line costs plus the cost per hanging point. This allows the customer to develop an improved hanging strategy and calculate its saving effect. HangOn calculation method, though, is so detailed and analyses so many different parameters that it can be efficiently used to calculate the effect of other improvements of the installation, like adding more spray guns or introducing a powder with a higher quality.
At a later stage HangOn calculation model will come as an easy-to-use version for the public accessible on HangOn web page.

Hanging density: chain hanging vs HQC

During two webinars hold on September 24 and October 1, HangOn will show its customers how to analyse and understand the efficiency in a coating line with lean tools as the OEE-measure and Six big losses. The impact and importance of filling the line will be demonstrated through a practical case where a typical daisy chain hang situation with hooks will be compared using a HQC - one of HangOns products in the quick series. In addition, HangOn technicians will give general tips about hanging solutions for typical coating situations.
In displayed case using HQC – HangOn Quick Centre levels – saves 38% of the total coating costs and coating 2.5 times faster compared to traditional daisy chain hanging, achieving a higher production efficiency. The HQC is flexible (different hanging levels are available according to the type of pieces to be hanged); it can be pre-hanged, thus saving coating line time and handling costs; it leaves minimal hanging marks on the coated parts and it allows for compact transport and storage of hangers. Based on the practical case HangOn will also show the great earnings potential of using free capacity coming from filling the line.

Smart thinking is never stupid. HangOn focuses on small solutions that make a big difference for your business. What you do with the resources saved, well, that is up to you.