

Understanding Total Cost of Ownership (TCO)



PRINT AND APPLY AND TIJ IN PACKAGING



Purchasing decisions for capital goods (i.e. machinery, equipment, components and plants) are influenced more and more by indirect costs. Many companies and industry associations have begun to deal with life-cycle models, such as total cost of ownership (TCO) and life cycle costs as part of their strategy-oriented cost management.

HOW NOT TO GET HUNG UP ON THE PURCHASE PRICE

CAPITAL EQUIPMENT COSTS

There is a significant disconnect between those who make decisions regarding industrial capital expenditures and those who are tasked with managing the costs of manufacturing operations; individuals making capital-expenditure decisions when building new industrial facilities rarely, if ever, consider the long-term costs associated with projects. As a result, these decision-makers consistently place initial purchase price concerns ahead of total cost of ownership (TCO) considerations.

There is always a predefined amount of money in the budget for new equipment for most companies every year and comparative costs between different equipment suppliers will often be considered. This should not be viewed in isolation, however, as Operational Costs can often be far greater than the initial purchase price. Any discrepancies between equipment offered should always take into consideration cost savings on consumables, reliability, maintenance and the other concerns detailed in the next pages.

OPERATIONAL COSTS

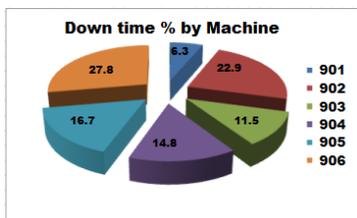
EQUIPMENT DOWNTIME

Scheduled Downtime

Part of any equipment operation has to be planned maintenance in the form of preventative activities. How often this has to happen is a critical part of the TCO. CIJ printers, for example, require upkeep on an ongoing basis from cleaning to filter replacement and addition of makeup fluid. In fact changing over of consumables is an activity that falls within this category. The ability to minimize this area of Lifecycle costs is a key factor in many forward thinking companies when choosing equipment purchases as it can be a significant cost in the medium to long term.

Unscheduled Downtime

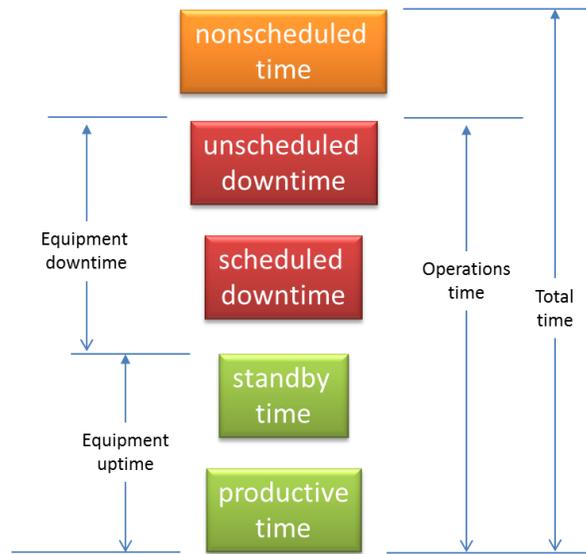
This is a critical part of the equation for operational costs. Any activity that causes the equipment to cease functioning in an unexpected manner falls into this category – repairs, out of specification or non-conforming products, maintenance delays due to lack of spares – all can cause delays to the overall production process both upstream and downstream.



Consequently, reliability of any equipment is a critical requirement in any purchase of capital goods. With coding and marking printers, the majority of them are at the latter stages of manufacturing lines and any failure here can severely impact on the entire process, causing significant and measurable costs.

Nonscheduled Time

This is the time that production is not ongoing, such as unworked time periods, off line training, installation of upgrades. On the surface this would appear not to have an impact on the cost of particular equipment; however with some printers, due to long or complex startup times, it may be advantageous to leave the machines on during nonscheduled time. This can have an impact on evaporation of makeup fluids in the case of CIJ printers (relatively simple to calculate) or even a reduced lifespan (more difficult to define)



EQUIPMENT UPTIME

Productive Time

This is the regular production time when manufacturing is ongoing. This is a variable between many companies, dependent on production demands, seasonal changes, shift patterns and more. However, this time is what any plant is designed for – the manufacture or processing of goods. It is the base on which production costs are calculated.

Key to this is throughput and the ability for any specific piece of equipment within the manufacturing process to be capable of attaining suitable quality at a speed which is in line with production output requirements

Standby Time

Part of the total manufacturing time, this time can be explained as waiting for other processes to start, a lack of an operator, changeover of staff. In reality this time is planned to be as small as possible. Particularly complex and difficult to operate equipment can cause a lack of a trained operator to be available so simplicity in software and controls is a keep part of keeping this category at a minimum.



CONSUMABLES

Printers consume – Inks, makeup, electricity, air. This has to be calculated prior to any purchase as it is a major operational cost. This will be different between different print technologies, although there is more control within Norwix TIJ solutions as densities, print resolutions; all can be adjusted to meet darkness and legibility requirements that effect the cost of consumables used. Furthermore, bulk systems, where a larger quantity of ink can be stored and used more effectively are an excellent way of further driving down ongoing costs.

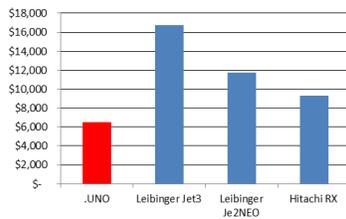


Bulk Ink Solutions from Norwix to reduce costs

WHAT DOES NORWIX DO FOR TCO?

LOWERED CAPITAL COSTS

The .UNO from Norwix is, for example, a highly cost competitive solution for printing in the industrial environment . In fact in the majority of cases, it is a lower investment in equipment that comparative CIJ printers for example, and now with the ability to print on most substrates



LOWERED IMAGE COSTS

With a bulk system installed with inc.jet hardware, together with the ability to adjust darkness and print resolution at will in line with customer needs, ink costs are kept to a minimum with the cost per image is reduced greatly.



UPTIME INCREASED

The most critical part of TCO, inc.jet gives maximum uptime at all times by making the whole process simple, deskilled and dependable. There are no warmup or startup times at the start of a shift and should anything go wrong, a quick change of the print cartridge gives a new printer in seconds, maximizing productivity at all times.



And to prove reliability even further, a true Lifetime Warranty is standard on all hardware from Norwix

DOWNTIME REDUCED

Planned and unplanned maintenance can amount to be a sizable sum of money in some print solutions – regular cleaning by technicians, filter changes, core updates. All this takes time and money. With inc.jet Thermal Inkjet solutions, there is no maintenance. Every time you replace a print cartridge, you are replacing the entire printer. And that's a 5 second unskilled job.

