

# Improving efficiency and safety in aerospace manufacture and MRO

The aviation industry wastes more than 30% of consumables and time-expiring products purchased for use in aircraft manufacture and maintenance, repair and overhaul (MRO).

In an industry where there is no room for doubt, gallons of sealants, adhesives, resins, paints, potting materials, lubricants and greases, engine wash compounds and corrosion inhibitors, are thrown away because they have either reached the end of their shelf life or because the elapsed time from the point of opening or mixing, has not been recorded effectively.

The cost of getting it wrong can run into the tens of thousands. The use of any consumable item that has exceeded its shelf life limitation or has not been stored or used correctly, immediately compromises its certificate of conformity and the airworthiness of the component to which it has been applied or fitted.

Errors can lead to lost man hours, to reworking, significantly increased costs, the premature removal and replacement of parts, to aircraft on the ground (AOG) and non-compliance. That's before you even consider the obvious and potentially catastrophic ramifications for safety.

In providing an immediately visible visual reference of shelf life, or how long a product can be used from opening or potting, the UWI Label eliminates risk, reduces wastage and supports continuing airworthiness management and maintenance.

## What is the UWI Label?

The UWI Label is a simple, easy to use, yet highly-effective patented smart label technology which can be used to track the shelf life of a range of hard time, consumable products.

The UWI Label is made from a highly flexible, paper-like composite material. It uses patented microfluidic technology to display the elapsed time.

When pre-applied, the label is triggered automatically at the point of opening, or at the point that it's removed from backing paper when applied manually.

Active indicator panels progressively turn green as each time segment elapses, tracking the product shelf or use-by life to the point that it needs to be discarded, as indicated by a universally recognised red indicator.

Timeframes are pre-set at the point of manufacture using microfluidic technology. The timeframe can be minutes, hours, days, weeks and up to three months. The label can also be set to longer periods but this is subject to further UWI Technology research and development and validation.





## Find out how UWI can help you

- ✓ improve safety
- ✓ reduce waste
- ✓ improve efficiency

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## Using the UWI Label in aviation and aerospace

Handwritten labels can be hard to read. Paint, grease or sealant spillages can obscure batch numbers, making it difficult to see shelf life and use-by dates. This in turn leads to a loss of man hours or an increased risk of error. Often the product will simply be thrown away unnecessarily.

Working alongside your current processes the UWI Label is a simple, clear visual reference for use within and pot life timeframes suitable for use in a wide range of hard time and consumable products.

This easy-to-use smart label technology reduces wastage of paints, adhesives, sealants, catalysts, greases, lubricants, penetrants, engine wash compounds, corrosion inhibitors and even some hydraulic fluids.

It can also be used to support the effective onward management of consumable products by MRO or aircraft engineering teams in the hangar, making compliance easier and reducing errors.

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## Key benefits

- Pot-life: provides a record of when the reacting composition was mixed in two-part sealants and paints, how long the joining and binding process takes and how long it can be used for
- Multi-stage and time-dependent mixing: clear display shows when reacting compositions are mixed and how long they can be used for
- Re-tested products: provides a visual indicator of shelf life on life-extended and re-tested products
- Improves safety: reduces the many risks associated with the use of time-ex products, providing an additional barrier to human error as part of aircraft manufacture, base and line maintenance and safety management systems
- Saves money and safeguards reputation: reduces product wastage, avoiding re-working, lost man hours, the early replacement of parts and a costly disruption to supply or service



Founded in 2009 by CEO and inventor of the UWI Label, Pete Higgins, UWI Technology has since won a raft of awards in recognition of its technical and commercial developments from organisations including: PWC Scotland, Barclays, NESTA, SMART Scotland and Scottish Enterprise.

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## The UWI Label at a glance

- Easy to use, flexible smart label using patented microfluidic technology to record elapsed time
- Clear, visible reference for use by and pot life
- Reduces errors and lost man hours, enabling better management of consumable, shelf life and time-ex products
- Automated or manual application
- Supports the compliance process, reduces risk and cuts waste in aircraft manufacture and MRO