

# LEAN THINKING

→ from Foodmach

## Foreign Body Detection



How to eliminate waste with improved foreign body detection technology.

Inspection and detection of your packaged products using either metal detection or X-Ray inspection is a necessity these days. However, metal detectors are susceptible to producing false-positive results, or worse, false negatives.

Both are undesirable, as false positives produce unnecessary waste or rework, while **false negatives may allow unsafe products into the market**, potentially damaging your brand and draining your financial reserves.

X-Ray technology can better detect a wider range of foreign bodies more accurately. However, it comes at significantly extra cost and generally requires a larger footprint in your facility—a further waste.

**One of the reasons QA managers upgrade their inspection equipment to X-Ray is because conventional metal detectors aren't as reliable at identifying foreign bodies as X-Ray technology.** This is because a normal metal detector, operating with only one or two electromagnetic field frequencies,

cannot be tuned to identify all types and sizes of magnetic or conductive foreign bodies in each product.

Any activity that does not add value from the customers' perspective should be considered a wasted activity. So, conventional metal detection solutions can generate the following **5 waste points**:

- 1. Disposing of products** that are the result of false positives.
- 2. Wasted time and materials** resulting from rework
- 3. Wasted time** involved in double-checking metal detector results
- 4. Increased time and financial resources** addressing product recalls
- 5. Extra factory space and energy** for X-Ray solutions.

See over for the LEAN solution.



LEAN THINKING is our series of thoughtful ideas on waste minimisation strategies.

We bring you smart product solutions to reduce all types of waste on your packaging line. These are the very same principles we use to design and build turn-key packaging lines for Australia's biggest FMCG manufacturers.

# FOODMACH

Automation | Robotics | Integration | Turnkey Projects

# LEAN SOLUTION

**What if a metal detector was able to scan up to five frequencies simultaneously?**

And what if the user could **configure each frequency** according to their environment, packaging format, product contents and likely foreign body materials? A detector with this capability would increase positive foreign body detection rates, with reduced false positives—which would all produce significantly less waste.

**This metal detector exists.** It was recently released by global inspection technology leader, Thermo Fisher Scientific. Their Sentinel® MultiScan® metal detectors can simultaneously scan up to five frequencies, between 50kHz and 1000kHz. MultiScan detectors enable users to identify contaminants that are up to **70 percent smaller in volume** than previous technologies.

Via a simple graphical user interface and report, the user can easily see which frequency(ies) are doing all the work. The frequencies are **balanced automatically** to reduce errors. They use a proprietary multi-coil design to boost 'receive' signals, so they can filter noise interference and detect foreign objects, **even in foil and metal packaging**. It's five times the metal detection—without five times the

false rejects. This step-change in metal detection technology reduces the need for upgrading to X-Ray technology, reduces waste, reduces the danger of consumer recalls, and increases OEE. And it does all this **in the space used by a conventional metal detector**.

Like other LEAN THINKING solutions in our series, the results of this solution are threefold:

1. Eliminate Own Defects (EOD),
2. Detect Own Defects (DOD), and
3. Contain Own Defects (COD).

## Financial Impacts

What are the true costs to your business of product waste, rework or recalls? MultiScan metal detection technology is an extremely cost-effective way to reduce waste. For a capital investment only slightly above a conventional metal detector, and **up to five times less than an X-Ray machine**, paybacks are typically well less than 12 months.

What's more, Foodmach's exclusive **FLEX** financing solution allows you to pay for the upgrade over time as you bank the benefits.

**If you're genuinely focused on eliminating foreign body contamination and eliminating waste, an investment in this new technology is an attractive option.**

Foodmach has the expertise to integrate the full range of Thermo Scientific product inspection technologies into your existing production lines, including conveyor modifications, line control and rejection systems.

*Foodmach is simply the fastest way to get control of your packaging line. **So call us!***

techsales@foodmach.com.au | [www.foodmach.com.au](http://www.foodmach.com.au)

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