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## What Questions are we NOT asking?

On the eve of the official publication of ISO Standard 55000 in November, a milestone in the development of asset management, Ruth Wallsgrove reflects on where we have been, and what we now know (at least collectively). She makes seven predictions about the shape of AM development over the next ten years. Why not try making your own, are they the same?

She also asks - but does not answer - the question that forms the title for this issue.

And perhaps the secret to our continued improvement lies in this very question - "What questions are we - as an Industry - NOT asking?" (and by implication, why not?)

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**Keywords: AM History; AM Future; Line of Sight**

*Please consider - and enjoy!*

*Penny*

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## **REFLECTIONS ON THE FIRST 28 YEARS**

**Ruth Wallsgrove**

Asset Management is a young discipline; its founders are still around and many of us can remember when we first heard the term, some time into our careers. As one milestone of its progress nears – the official publication of ISO standard 55000 on Asset Management, due this November – it is worth asking where we have come from. And where next?

At the moment, the first known written mention of the term to mean what we mean now is 1985 (in Penny's diary, after a conversation with Roger Byrne). I like to think the original, the 'Ur' question, posed to Penny by the South Australia state government is still pertinent - what will our assets cost us in 10 years' time to keep them at their current levels of service? Not something too many organisations could easily answer, even now.

The term seems to have first been uttered in Britain ten years later, at a conference, by Roger. Strikingly, even some pioneers and early adopters were still calling their AM tools things like 'MainTools' in the later 1990s. It took the Maintenance Society of Australia until 2006 to formally change its name to the Asset Management Council. The Computerised Maintenance Management Systems Society reconstituted as the Institute of Asset Management in 1999.

A little dull though it is, the publication of the first cross-sector national AM standard, PAS 55, in 2004, really did herald a shift in awareness around the world. By then there was also growing evidence that Asset Management was beneficial in practice, not just a sensible idea, as increased share price, company value and reputation, as well as performance improvements and cost savings followed the adoption of AM. Interesting case studies include Yorkshire Electricity, Yorkshire Water, European energy distribution companies, as well as offshore oil & gas.

### **The road to improvement in Asset Management has not been entirely smooth**

It was not all good news: the influence in the late 1990s and early 2000s of big dumb systems and the big four management consultancies was mixed, I'd say. Too much emphasis on EAMs, and some enthusiastic but self-serving and often plain wrong advice from big consultancies sent some companies off on the wrong track.

Some early-ish adopting organisations have had to take several tries at implementing AM before they spotted it is mostly about people. Penny, Melinda Hodiewicz and I had some fun and some sorrow charting how organisations can get good and then slip backwards in our ICOMS paper of 2009, something I hadn't imagined when I first became an enthusiast in 1999.



### **So where are we now?**

Of course it must depend on where exactly you're looking. I've been lucky to work in several different sectors in several different countries, and this is my starting list for what we now know how to do.

**I don't mean everyone, or even very many people do these, but these feel like puzzles that, collectively, we know how to solve.**

- Maintenance optimisation
- Reliability engineering generally (including a range of very useful tools)
- Implementation of a big dumb transactional system (EAM) that works
- Decent Asset Management Planning processes

**I think the following are also straightforward enough – the mystery is perhaps why more people don't do them:**

- Basing decisions on Whole Life Costs, especially in asset owners, rather than suppliers (some of the latter are pretty good at this)
- 'Line of Sight' - ensuring asset strategies and plans really do align to corporate strategy

**What doesn't seem so easy – yet?**

- Risk management frameworks that support AM effectively
- Integration of demand & future scenarios with whole life asset models
- Changing culture so the whole lifecycle really is live in upfront decisions – not just in business cases, but in design and project management

Penny, I am sure, would add that we're still struggling to be clear about levels of service and how we understand trading off, or optimising, service and costs.

**But what issues aren't I noticing at all?**



## THE NEXT 10 YEARS

**What can we say with any confidence about the future? Asset Management, after all, is a discipline about the future, and uncertainty is our common coin.**

**1. More people will hear about AM after ISO 55000 is published.**

There are 20-plus countries already involved in the standard, as well as the Global Forum on Maintenance and Asset Management.

**2. Ideas and developments will come from new countries.**

Australia, New Zealand, UK, in that order, have done a lot of the running up until now; Canada is becoming prominent. Hong Kong rail company MTR was an early adopter; some South American oil companies have been interested for a while (they are both good examples of sectors developing AM out of a much earlier interest in reliability and maintenance optimisation). I'd expect more interesting ideas to emerge from continental Europe – there are several key things we've already learnt from them.

What different perspective/s on AM can we expect from China, USA, India? I don't know, but my guess is whatever they do will not look exactly like AM as we know it.

**3. Asset Management will become a basic concept for CEOs and Boards** It is not, generally, yet. When it does, it probably won't remain as the term 'Asset Management'. The integration with corporate-level thinking on risk has some where to go yet (and my, biased, view is that corporate risk is often surprisingly unsophisticated in comparison with what we face every day with physical assets)).

**4. In ten years' time, not everyone will be doing good Asset Management** I think we should not underestimate how non-intuitive AM is – or, rather, how it goes against other deeply held concepts. Apart from the general and multiple pressures towards short-term thinking, AM offers a challenge to conventional engineering and project management, and the general culture of heroes and individual flashes of genius in operations and engineering.

It also requires we can justify our decisions, and explaining ourselves is not generally a strength in people who enjoy working with physical assets. (This is only likely to get worse when we consider the next prediction.)

And after all, plenty of organisations still fail to do lots of other apparently obviously

sensible things. How many have learnt the right lessons from investment in big IT? Or fail to see the cost of not treating their workforce with respect? Or think about the medium, let alone long term? Plenty of CEOs and other senior managers are not terribly good, generally.

## **5. Asset managers will need to become more numerate**

Most of us aren't. My vision is that those who know about assets team up with bright young analysts to develop dream-teams of experience and analysis; some companies are already looking (or re-looking) at more numerate disciplines than engineering to add to their AM teams.

Come to think of it, my three favourite people in AM all come from numerate disciplines rather than engineering – Penny (economics), Andy Whittaker (geophysics), and John Lavan (mathematics, via accountancy).

## **6. We need to borrow from other disciplines**

Which ones? Psychology, obviously. Not just because so much of the challenge is about hearts & minds, but also because psychology research (and 'behavioural economics') is becoming very useful on the realities of how people make decisions.

I've been in AM long enough to forget that my original degrees are in psychology and the psychology of decision support... in any case there wasn't too much around when I did them that I can actually use. But some things have progressed from my student days and it's probably relevant that some people who are very interested in people have done very well in AM.

Borrowing good ideas from other sectors or disciplines, a research director once told me, is the easiest way to innovate. Two of my other favourite people in AM came from history (Robin Steel, ex AM of London Underground) and geography (Emma Stewart); clearly they are both simply very smart people, but it is interesting to consider what they may have brought from their degrees.

Some people will still think AM is all about IT or technical tools

## **7. Graduates will train as asset managers**

As far as I know, the first graduate entry to a dedicated asset management career track in a company ... is just happening as I write. Does anyone know of any other organisation that has instituted specifically AM graduate schemes? It seems an obvious step; and one likely to bring some quite new insights and left turns in AM as we know it.

Do I expect to see AM first degrees in ten years? I am still not at all sure about this, but perhaps we should 'design' a course just to see what could be useful in it?

**What do you think?**

Writing this reminded me that I was an early adopter by luck – thanks most of all to the inspirational David Ford – but not an innovator. When I think of the future, I am just projecting forward from trends already highly visible; logically applying other people's good ideas. 95% of all AM in practice is just doing this, solidly, systematically.

I am confident I'll work out the rest of my career happily helping to implement techniques and approaches that are already known.

In ten years' time, I often say to companies, we'll all take it for granted that we work from good whole life cost models, just as we now take it for granted that you need one single asset register to base all your asset information on (10 years ago plenty of people were arguing it wasn't necessary to have one – that it was ok to have 365 different asset registers around the place.) I'd bet that the first recorded use of the term, or concept, of whole life costs was more or less 28 years ago...

But if 95% of improvements will come from more generally applying what some of us already know -

### What about that other 5%?



### ALIGNMENT - THIS TIME IT'S PERSONAL

Ruth Wallsgrove

I've written in SAM about Alignment or 'Line of Sight', probably the single most interesting idea raised in PAS 55. Most formal definitions of Asset Management stress that the whole point of it is to deliver corporate strategy and objectives. **And yet, as I go around talking to actual and potential Asset Managers, it's striking how many actually don't know what their organisation's corporate strategy is, or can't quote even the target that directly relates to their work.**

I think it's a two-fold problem. On the one hand, it is asking people involved with maintenance, capital projects and asset planning truly to have their organisation's goals always in the front of their mind as they think about assets. On the other, many organisations have missing, draft, vague, or contradictory corporate strategies that

wouldn't help you make decisions even if you tried to use them. (Note – I am referring to private as well as public organisations here!)

However, the extent of the challenge came home to me the other week when I was discussing personal and team objectives with some fairly sophisticated AM personnel. What should your targets be, as asset managers?

Well, I helpfully pointed out, Asset Management is a discipline all about the future: we make plans and strategies for assets, we don't run them today. Any current operating target (such as today's service levels) is pretty irrelevant as a measure of an individual in Asset Management.

Anything we had to do with the affair was in the past, when we planned or strategised for the relevant assets. We could be measured five years after our actions... but that's tricky to manage for personal targets. (I think of the Asset Strategy Manager who, three weeks into her job, was hauled in front of her director to explain why a particular asset class wasn't delivering. She said she had to bite her tongue very hard not to point out he had actually been responsible for the asset class strategy they were using, when he held her post previously....)

The obvious answer – obvious after some pain – was that the fundamental measure on us as planners and strategists must be whether the plans and strategies we develop this year can be shown to be rational and fully justifiable to meet future service targets.

First, get your future service targets....

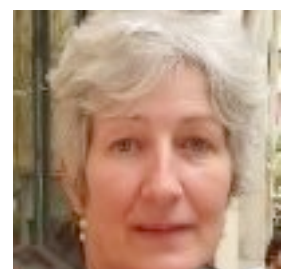
PAS 55 includes the interesting requirement that asset strategies have measurable, SMART even, targets – what the strategies are going to deliver, by when, and I'd include for how much money – and clearly aligned with organisational objectives, since that is the only point of their existence. 'This strategy is going to deliver 50% of the improvement required to meet Level of Service A (and Opex target B) by 20xx' – that's what I see.

Plans of course must show what levels of service they will deliver, and when, and I am hoping it goes without saying that this, too, should be expressed in a SMART way.

Delivering such a smart strategy or plan, we could be measured in terms of what they commit us to. Something along the lines of 'We need to cut the number of interruptions to supply in half in the next three years; my team's target is to deliver a strategy that, if implemented, will deliver 30% of this improvement.'

It strikes me that many organisations are some way off being able to do this.

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## Case Study: How Corangamite, a shire council, developed the data to determine a successful 10 year funding plan based on service delivery.

'Cut your coat according to your cloth' is an old prescription for managing with limited resources. Most regional and shire councils (and many others) are now in this position. It is good advice, but how exactly do you do it? The key is choosing the level of attention that the asset justifies.

Here is a short case study from Corangamite, small shire in Victoria. Corangamite has a number of small towns strung out over a large land area. It has a number of natural and heritage construction tourist attractions that generate traffic and infrastructure demand, but little by way of council revenue.



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### By way of summary, Corangamite:

- Identified its core services from non-core services (note: *not* its core and non-core assets, but service)
- Then linked the facilities that provided core services and built a hierarchy.
- Undertook a detailed level 2 condition and functionality assessment on the specialised core service assets.
- Undertook a level 1 assessment for the remainder
- Used industry benchmarked decay models to determine a 10 year funding plan
- Presented the outputs to their decision makers
- Adopted a 10 year LTFP and a 5 year maintenance plan to meet desired LoS on core services.
- Next step is 25 year optimised modelling to determine options analyses.

## Three Keys to Success at Corangamite:



### Attitude.

Here is a real grass root case study of a facility manager who says ' Its not about more money, its not about gold plated services. This is about knowing what we have, what our core services are and then determining our options for continuing to provide a reasonable level of service - i.e. one that is equitable and affordable. Future analyses will show us if we can improve in some areas and give in others without spending more money and importantly we will have tools and data to demonstrate that we can only deliver X as opposed to going to our stakeholders uninformed last year plus or minus 10%.'

### Intelligent data design.

The idea of intelligent data design is to do no more than is needed for the task. It is, in short, 'fit for purpose'. What does this mean in practice?

Approximately 150 inspections were carried out in two weeks (and not just any two weeks but the two weeks before Christmas!) This was made possible by knowing exactly what needed to be done and by reducing the amount of data handling. Collection tablets using the Windows platform were used enabling collection of data directly to the Excel platform and immediate uploading into the model without the need for double or triple handling. It thus reduced the risks of increased human error and polluted data from continuous change or tinkering. Time eliminated from re-handling also translates into lower costs.

Data was collected at two levels, a basic Level 1 sufficient for valuations and broad maintenance on all assets and an additional, more intensive, investigative Level 2 for buildings with complex structures and surfaces, fittings and fixtures and provides a higher information output.

Level 1 collection of material condition was accompanied by a rating on safety, appearance and function; whilst on site the inspectors looked at and photographed any serious and/or urgent maintenance that could present a risk to property and/or person.

Level 2 data allows for all surfaces and sizes to be measured and nominated, providing a basis for the future capital renewals and maintenance plans to be completely established.

The resulting information has established Corangamite for the coming three years in valuation terms, and provided a clear insight into any major risks that face their portfolio immediately.

## **Credible Modelling**

Corangamite used Ashay Prabhu's Assetic software models that have been employed in many councils over the last 15 years and more. Each application has resulted in improvements and modifications to the stage where this is today a very robust model. It can record, track and predict future infrastructure spending.

Although originally developed for use by local government, Mark Carnegie's venture capital funds have bought a sizeable share of the software to extend its use to the private sector. Not only is this rare, but it is even rarer for such a purchase to be considered significant enough to be written up in the Australian Financial Review (15 Jan 2013).

Ashay is confident that the next generation of asset managers can change the world! "With access to powerful analytics like myData and myPredictor, they are developing means and ways of benchmarking component level decay curves, unit rates and condition assessment methods. Tools like iPads and androids are allowing us to capture data at significant speeds and train council staff very very quickly. So data capture becomes a way of life.

Assetic's core driver is industry benchmarked assessment guidelines which means data is consistent, repeatable and reliable - hence now more often than other when this science of data is presented at a council meeting seldom does a councillor say 'all that is good, but how reliable is the data'. In other words, credibility!

Renuka Ranaweera is one of those managers set to change the world. Her models are built around service need and identify what asset characteristics are essential for the quality of service delivery required.

Further information on the Corangamite Case Study, data design and credible models may be had from

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