

# Case Study

RCA – the future of aviation event investigation strategies?



**Andy Wilkinson is the Maintenance Manager at CSE Citation Centre, Corporate Aircraft Maintenance at Bournemouth Airport.**

Andy joined aviation in 1988 as a welder/machinist and progressed to licensed aircraft engineer through self-study.

He worked in several corporate jet maintenance facilities and airlines progressing to management roles in 2000, joining CSE as Maintenance Manager in 2006. He is passionate about SMS/Just Culture/event investigation within the aviation industry.

**Two years ago Andy's organisation implemented a Safety Management System and has been using industry standard Maintenance Error Decisions Aid (MEDA) to carry out event investigation.**

Andy undertook Sologic's two-day Root Cause Analysis Training (RCA) course to enhance CSE's error prevention and solution strategies. Since then, he has noticed significant changes across his organisation, which he details in the following interview.

**What led you to introduce Root Cause Analysis (RCA) within your organisation?**

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We became aware of a free half day Sologic workshop in London so we went along. The workshop demonstrated the basic principles of their root cause analysis system. What impressed me most of all was the system's ability to identify and address key problem areas that we have been experiencing as a business for some time- that got my attention. What also surprised me in the three-hour workshop was how much content was imparted. I was convinced that RCA was the way forward.

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**So you then decided to take the next step and attend a two-day training course. What was your experience of this?**

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The depth of knowledge shared and the delivery was superb. It was a fantastic experience and I found it truly enlightening on many levels. One of the bonuses was that the confidence and assured delivery of the training is backed up by the instructor having industry experience, having been at the 'sharp end' - and I think that was essential, certainly for me in my position. I think this made the Sologic training stand out above a lot of other training that I have been involved in.

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### What did you feel you got out of the training?

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By the end of the two days, I had an overarching understanding of the principles of RCA and how they would make a real difference when applied. The training gave me the confidence to actually go and run an RCA. I came in without that and two days later I left feeling empowered enough to do it effectively

Also it has been great being able to retain contact with the instructor, this was essential for my confidence, the knowledge that somebody who's been where you are now is available on the end of an email or phone to guide you should you need it. This ongoing support was worth its weight in gold.

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### How have you used Causelink software?

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I have struggled sometimes to convey the magnitude of an issue. The Causelink software makes this information easy to digest and to present.

The software is deceptively simple and intuitive to use. It allows you to quickly build a comprehensive picture of the issue you are trying to understand.

Analysis can be done through visual charting, and I have also found the reporting side of the software fundamental. The charting shows your progress and then this is automatically fed into the reporting section. Any software that stops me having to duplicate a process, to write things out twice, gets my vote!

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### How have you since implemented the RCA process?

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As Maintenance Manager of a Corporate Aircraft Maintenance Facility, I have been able to apply the RCA process to current issues within the business.

Initially I was surprised that my staff were so interested to get involved in the process. They like the fact that they can actually see the 'bones of the process' forming. It made them want to ask questions and dig deeper.

A recent case involved a multitude of contributory factors and so we decided to manually chart these first of all before using the software to form the report. We chose to break the brainstorming meetings into an hour a day to reduce the impact to the business.

It's been incredible - the whole team has become engaged through the process. It's enabled us to unearth problems that we all know about in the back of our minds but now they are out there on the chart.

Once they have materialised you can actually evidence them, ultimately applying solutions.

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### What do you perceive the benefits of using RCA to be?

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After the two-day training I trialed the Sologic RCA during a maintenance error investigation alongside our established process (Boeing MEDA). This was really interesting as we quickly realised that the RCA process was offering a much more in-depth and holistic analysis of contributing factors. Ultimately this enabled us to adopt a far better and much more informed solution strategy. It became evident very quickly that the breadth of information from the RCA compared to the information from the MEDA was ‘chalk & cheese’ and we definitely believed that RCA was the way to go.

I think the benefits of using the RCA process are enormous. One case that we are currently working through started as one issue. We now have the whole wall of an office covered in cause and effect charting, giving us greater understanding of the issues and thereby identifying opportunities for change and improvement.

So I think one of the benefits is allowing the airing of issues that are seriously affecting business but nobody can put their ‘finger’ on. RCA makes these problems more tangible and gives you the tools to attack them.

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### How is this going to affect the finances of the business?

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I think the financial benefits will be afforded by stopping the business going around in circles. RCA will mitigate against futile attempts to, with all the best intentions, ineffectively resolve issues which then result in repeat errors. I don’t think anyone can quantify the drain on businesses that this creates.

I think with the adoption of RCA there is financial benefit and reward because you stop wasting your valuable resources and you can actually invest your time wisely.

It does take time to do an RCA, the training does cost money but I think the dividends by far outweigh these relatively minimal costs.

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### What sort of impact do you believe RCA is having on your organisation’s culture?

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I see the cultural change coming about by embracing the hidden strengths of our organisation. By embracing our errors and honestly exploring them we will find solutions. This way we get business improvement in a positive and very uplifting way, engaging and empowering the people who work within our organisation.

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### What would you say to other people and organisations curious about RCA?



I think my message quite simply would be, don't hesitate you have waited too long already and that is born out of my own experience.

Don't take my word for it. Why not utilise the opportunity of one of the free Sologic Workshops or have a play with the Sologic software using a free 30 day free trial to convince yourself of the benefits that adopting this process can afford your business?

I think other businesses in my sector are facing exactly the same problems that we are.

At CSE we have adopted a Safety Management System way ahead of any mandated requirements, but I believe that by 2018 SMS is going to be mandatory for EASA Part 145 Maintenance facilities. As such I can speak from experience about how RCA has gone hand in hand with SMS and I am convinced that other people are going to be as amazed as I was and reap the benefits of RCA.

In addition, it's clear that the Civil Aviation Authority (CAA) are embracing Root Cause Analysis in a big way for exactly the same reasons we did – they perceive that the sector is in a cycle of error prevention strategy and repeat error. They recognise that the European Aviation Safety Agency (EASA) are starting to use RCA in their terminology. We need to be aware that when EASA make a ruling it becomes law and each country's civil aviation agency has to follow suit.

In my opinion, RCA is going to form part of everyone's event investigation strategies in the aviation sector in the next couple of years - so you might as well be ahead of the game, as well as reaping all the business improvement benefits!

