The GIM Channel 10: Understanding the value of your geological database with Roy Irvine

Podcast Transcript

Roy Irvine, from The EMMM Group, explains why the mine resource database is one of the most valuable assets on a mine, and gives us an easy way to calculate its value in this week's GIM Channel podcast.

https://soundcloud.com/the-gim-channel/10-value-geological-database-roy-irvine

Intro:	The GIM Channel Podcast, bringing you the big picture on Geoscientific information management through interviews and discussions.
Sarah Mitchell: [00:00:30]	Hello, welcome to the latest episode of the acQuire podcast, the GIM Channel, I'm Sarah Mitchell, I'm your host today and I'm joined by our guest Roy Irvine. Roy is currently the form director for the EMMM Group. He's held a variety of roles with companies in the mining industry including De Beers, Datamine and Kinross Gold. He's passionate about helping people understand their roles in an organisation and he particularly wants them not to be afraid to question the status quo. This is done by embedding something called Boundaryless Information Flow™ into an organisation. Welcome Roy.
Roy Irvine:	Hi, good morning.
Sarah Mitchell:	We're also joined by Steve Mundell, acQuire's Director of Product. Hi Steve.
Steve Mundell: [00:01:00]	Hi everybody.
Sarah Mitchell:	And lastly we have Meesha Stacker with us, acQuire's content marketing specialist and she'll be joining us today as well. Hi Meesha.
Meesha Stacker:	Hi everyone.
Sarah Mitchell:	Fantastic. Now let's get right into this Roy, because we've got some really fascinating things to discuss today. Can you just tell us a little bit about your background?
Roy Irvine: [00:01:30]	Yes, I qualified as a Geologist in the UK. A very long time ago in 1978 I finished my degree and as I qualified, there was yet another mining slump, so I applied for 150 jobs and didn't even get a single interview. So I was able to do a master's degree, which I then did and then eventually started knocking on doors and got a job with Anglo American and was sent out to South Africa in November 1979. And then I left De Beers 27 years later, again during one of the down sizes; but luckily was able to go into another job straight away with Datamine. I'd always had a passion for data and computer systems; I'll talk a little bit more on that later. Then after seven years of

| [00:02:00] | that, one of the clients was looking for a QAQC manager and a database manager so I spent three years in West Africa, Mauritania. I finished that last year and then when I came back to Johannesburg, I got involved with the open group EMMM Forum again and was then appointed the director in November of 2016. |
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Sarah Mitchell: Let's talk a little bit about the EMMM forum, what is the purpose of it?

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Roy Irvine: If you take a step back, The Open Group itself has been going for about 25 years and is an organisation of ... consortium of companies, who create standards for different types on industries. So they've created standards for finance, for telecom, for insurance and about six years ago, we started to look at exploration and mining and realised that there was an awful lot of cross talk, because people were using different terms for the same things. Plus they were really stuck in their silos. So the goal of the EMMM Group is to create standards that people can use. Everything we produce is public domain, so if you're in a mine you can go and look and see which part of the business do you fit in. And most importantly, who feeds you and who do you feed. And that comes up to using the term Boundaryless Information Flow™ where we're trying to knock down the silos within the mining industry, so that information can flow from one end to the other, with ideally no obstacles.

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Sarah Mitchell: Okay great now if you haven't heard of the acronym EMMM, it is an acronym, it stands for Exploration, Mining, Metals and Minerals. And Roy could you tell us, you mentioned down cycles in industry and much of the world is in a down cycle, right now we're coming towards the end of one. In your opinion, what is the value, something like the EMMM forum brings in a current climate, like in a down cycle?

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Roy Irvine: Well one of the obvious ones that it could have been used for with the ... if you are looking at cost saving, which obviously all the companies have been involved with; is before you tackle the cost saving, you could use the process model to identify where you are actually spending the money, in which part of the process. The EMMM process model focuses obviously on the technical side of exploration and mining, but it also has all of the supporting activities like IT, HR, finance, social programmes and things, and my feeling is that a lot of the cuts have been done for the short term gain but the companies are then going to struggle when the turnaround happens and a lot of the technical skills that they had, they actually let go. And then they're going to wonder how do they actually work in the new upturn environment.

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Sarah Mitchell: Steve, you're working all the time in a commercial environment and talking to miners all the time about what they're currently dealing with and what's on the horizon for them so, what are the current challenges that you're seeing for this group as it relates to EMMM; and how does it help them?

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Steve Mundell: Yeah, I think that's a really good question; I think it's more of how it helps them and it really comes down to that point that you need to have us talking to the miners; is that this gives us a framework to have a conversation and really cut through, what is that terminology and where do we fit? So for example, we say that we do GIM and so to be able to communicate that clearly and for everyone to be on the same page as to what we do, is really important, it makes us ... allows us to express our position much more clearly.

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I think this is becoming even more important, as we go through the years, is that we're seeing that there's, this term coming up un-bundling of all of the process and un-bundling all of the technology that's within the mining value chain. And as things come apart they need to find their places where they fit; so, if we're able to relate

[00:07:00] where we fit with the framework that EMMM provides, it makes it very easy to see where technology fits and then when it does come down to those points that Roy mentioned around cost savings and where to target that, is that then you can look at, what systems are going to help me with doing that in the particular areas.

So I think that it's fundamental I guess, the setting up that framework for communication.

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Sarah Mitchell: Excellent; Roy, I know your passion about how data's used within an organisation and you've given us a couple of different examples, especially one of them with a transient workforce; you see that mine resource database as one of the most valuable assets on a mine. So, do you think that's being recognised in the industry and if not, how do you think it can be recognised more widely, is it recognised by the board?

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Roy Irvine: First of all yes I do agree that it isn't being recognised, well not even, just by the board but even by the general management and exec on the mine. If you look at most mines, the database will be managed by somebody like myself who's got a geological background with some PC skills. Whereas if you look at the other databases like HR and supply chain, those things are managed by IT professionals. And the amount of support that those databases have compared to the geological [00:08:30] one, is just enormous.

One of the things I used to do when I was in the early mine days when people were always saying, "Well what's the benefit of getting this piece of software in", is I would use an estimate of what the geological database is worth. And basically you just take how many metres of drill samples you have in the database; you take the current drilling cost multiply them together and then I used to double the cost because that [00:09:00] took the amount of effort that people worked on it, and you come up with some very big numbers. In a tens, well, most of them are at least fifty million dollars, some of them are three or four hundred million dollars.

[00:09:30] Suddenly when people realised that, their eyes open; and I say if you lose the database, that's what you really lose. Because in a lot of cases you can't get back to the places where you sampled; you've either mined them out or you've given up the lease area, so please start looking after this asset and I would actually love to see geological database put down as a financial asset in a mine financial statement because it should be there, it's work in progress.

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Sarah Mitchell: Roy, I think you just did a magnificent service to the whole industry by giving that little return on investment example and I think there's probably going to be lots of geology DBM's that are going to be wanting to buy you a beer the next time they see you.

Roy Irvine: The other part that leads on to that, the other part of the ROI, is then you say, "Well what is the saving of, you get from buying a software system" and it's all about saving time. And when you do that, the senior geologist in the team literally is having to save [00:10:30] one to two hours a week and the junior geologists are having to save just a handful of hours a week. The numbers really are amazing when you look at them like that. Unfortunately a lot of the geological staff haven't got any business training whatsoever. I was actually lucky to do a one year MBA, which at least I understood

ROI's and suddenly when you start expressing things in those terms, which it should be done, things become very simple and there's no argument about why you should have the latest technology to manage your geological data.

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Sarah Mitchell: Roy, do you think boards are aware of the asset that geoscientific information is to an organisation?

Roy Irvine: No, honestly I don't and I think it's one of the things we just have to keep hammering away. A good example that I had was when I was with De Beers, they sold one of the assets, and I had to hand over the database to the new company and, you know this is really going back a bit now, it actually fitted on to a 1.44 stiffy. And that was the entire ... so, if you look at it in one way, whatever this thing, this stiffy drive was worth a dollar; in some ways, that's what people thought this whole thing worth. Of course it wasn't worth that, it was worth hundreds of millions of dollars.

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Sarah Mitchell: Yeah, you make an excellent point and I think from a lot of people, you know, just not, as you say not having the business experience to understand how to put that into dollars and cents and that little formula that you gave us we'll definitely have to put that in the show notes.

Roy Irvine: A nice thing about this is nobody's ever challenged me when I mentioned it. So if somebody can come up with another way of doing it, but I think whatever we do, it's still going to come up with a very big number and if you look at it, many mines that have been collecting, some of the mines in Africa have been collecting data for almost a hundred years. That is an incredible knowledge base that should be used.

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Meesha Stacker: Roy, we heard during a panel discussion at acQuire's booth at PDAC last year that as an industry we are data pigs, this was the term that was used, and this is based on we collect so much data and we're good at collecting data but really is all data used effectively? What are your thoughts on this?

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Roy Irvine: No, I would agree with it, it's an interesting term that they've used. And again, one of the good examples I did was when we had to look at upgrading a company where they had seven sites, they had three different database systems. I don't know, probably two hundred years worth of data collectively. The first thing I did was ask, "What is this data used for?"

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The final system they ended up with was about ten percent of the number of tables in the original system, and they're now working much more efficiently. At the time I think because of, I blame the spreadsheets, I blame Lotus 123. It became too easy to add an extra column in for something in the spreadsheet in the old days. People just never thought about, "Well what is the purpose, what am I actually going to use this piece of data for?" And if you really strip things down, you end up with the position of the sample, the geological type alteration weathering etc. And then the grade values and density and hardness. If people can just get that right, that's 80% of the data that's going to be used.

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And then it does make it an awful lot easier. Another little exercise that you can do is to look at all of the rows and columns in a database and find out how many of them have any data in them. And if you do that, the number is really small; the last time I did it, I had databases that were only 15 to 20% populated. But they were getting bigger and bigger and bigger. And I think really the industry needs to look and that's again one of the things we'll do with EMMM, is to produce a data model this year

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where people can really critically review what is the critical data for going forwards and what is the nice to have.

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Sarah Mitchell: When you talk about ... I love that idea of producing a model for the industry to help them, you know, get more out of their data. What are some other things you're seeing that are stopping companies getting the most out of their data?

Roy Irvine: One of the points that you were talking about is the fact that, most people don't understand anything about data quality. When I was doing the work as the database manager, when I first got there, they said "Well it's your job to do data quality" and I said, "No it's not my job, it's my job to teach you how to do it." And I look at data quality very much like safety. When I started out in the mine, that was nearly 40 years ago, the attitude was, "Oh the safety officer's going to make sure that we're safe." Thankfully, you know, that has changed, it's everybody's responsibility about safety. In the same way, we need to get to the point that anyone who uses data, needs to understand about data quality, so when they get some data, they actually know how they can use it, what can they use it for and what are the boundaries?

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Sarah Mitchell: Excellent; Roy, what do you think the mine of the future looks like?

Roy Irvine: One of the challenges is that the existing mines will be going for a long, long time. So because of their, ore body geometry plus the infrastructure that's in place, plus the culture; I don't see there'll be a dramatic change in that. Obviously, if you can start with a brand new mine, you can then really look at optimising, you know, first of all how do you do if it's an underground mine, how do you do your development so that all you take out is the valuable material and you're doing it in a safe way by using autonomous vehicles that can get into places that you wouldn't want to put a person to.

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If there does happen to be a rock fall, then the worst is you've lost a vehicle, at least you haven't lost a life. So, there should be an awful lot of scenario planning, much more than I think is being done; to look at what the possible mines of the future can look at. And all of the technology is already there. Another one of my favourite things I've been watching is what's happening on Mars. And you know, it's amazing that you can download a geological map from the US GS of Mars and nobody's ever been there. But if you go to an underground mine, the geologist is still standing there with an A5 pad and a pencil. There should be new ... you know there's technologies like using, you know Go Pro type things to map where you are, to understand where you are, send that data up that other people can look at it.

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I think that was one of the advantages from the pre personal computing age, was that people spent an awful lot of time looking at the raw data, looking at the information which then was hard copy maps. And just discussing, "What do I do next?" Now we seem to be just wanting to rush ahead doing whatever we were doing in the past and not wanting to change things.

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Sarah Mitchell: Roy, you've provided such really valuable insight today in a couple of, you know, really meaty things for us in the industry to think about. I'm sure we could talk to you for ages but unfortunately we've ... we're at the end of our time here today. So if you've enjoyed our discussion, please tell your friends and colleagues about the podcast, which you can find on our Acquire newsroom at acquire.com.au. Roy, thank you so much for joining us.

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Roy Irvine:	Well thank you very much for the opportunity, it was, you know, a very good way of, you know, having a discussion and just getting things out there. In terms of distributing it, yeah we will also be, as I have been doing, whatever is done within the EMMM Group and I see this as part of that, will be shared amongst the existing members plus we'll use it for prospective members as well because this is perhaps the new way of doing the discussion over, the old discussion over the bar, this is the
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Sarah Mitchell:	Well thank you so much and we appreciate your support.
Outro:	You've been listening to acQuire's podcast, the GIM Channel. Find us at acquire.com.au.