

**RESUMED**

**[10.01 am]**

- 30 COMMISSIONER: It is 10 am. We are back on the topic of Nuclear Medicine and I welcome Mr Marco Baccanti from the Health Industry, South Australia. Marco, thank you very much for joining us this morning. Counsel.
- 35 MR JACOBI: Health Industries, SA is an agency of the South Australian government with the aim of developing partnerships with global life science companies to strengthen the state's reputation as a global leader in health research. It also has the objective of attracting investment in that area. Mr Marco Baccanti has been responsible for the successful establishment and
- 40 growth of health precincts around the world. He is a qualified industrial chemist with additional marketing and business administration qualifications with 18 years experience as a chief executive and managing director in roles involving national organisations in Italy and the United Arab Emirates. Mr Baccanti has established partnerships with the World Economic Forum, the
- 45 World Health Organisation and National and Regional governments and has

overseen the establishment of 70 companies through the Dubai Biotechnology Park and the Commission calls Mr Marco Baccanti.

5 COMMISSIONER: Okay, thank you very much for joining us. Can you explain just briefly the – so that we get this in context, your role and we're particularly interested obviously in the role with the cyclotron and the opportunity, the business opportunities for nuclear medicine?

10 MR BACCANTI: The Health Industry South Australia organisation has been created by the government with a very clear mandate. Attract the jobs and investment in the life sciences industries. So the mandate is to contribute to the division of economic development and diversification of the local economy, towards a direction of more knowledge intensive jobs. This is the mandate. The tactic and the execution is developing partnerships create opportunities to  
15 see global investors doing something more, in all the possible ranges of health industries.

COMMISSIONER: Mm'hm.

20 MR BACCANTI: So knowing that SAHMRI is one of the best arguments we have; one of the reasons why we may deliver some uniqueness in the global scenario. Evidently we started working very, very closely to SAHMRI to understand the level of opportunities that we can leverage and exploit from SAHMRI. Out of the many opportunities that we found in SAHMRI of course  
25 the cyclotron is one of the most interesting. Interesting, not only for the technology itself, which by itself is not unique; it is one of the main cyclotrons installed in hospital in a research environment. But if you combine the uniqueness, or the (indistinct) of that technology with the strength of the local team of scientists that has been hired globally and their very good reputation in  
30 this sector, with opportunity to have organisation like ours connected or part of the government that our leveraging what is possible to do. We found in the cyclotron something that is very core (indistinct) to our mission, is something that we can really exploit in terms of our mandate (indistinct) is investment, attraction and job creation.

35 MR JACOBI: I am just interested to pick up about you provide commercialisation support for an industry like nuclear medicine associated with the cyclotron?

40 MR BACCANTI: These are – the mandate is investment attraction, so we have to make an interpretation of it which ranges 360 degrees. One of the possibilities is to find companies that may invest, may take advantage of the knowledge generated by the research activities ran in SAHMRI and to invest in it. So a normal way to call this activity is commercialisation, which is  
45 probably not exactly precise in this case because when you say

commercialisation, you mean that there is something that was already been discovered spontaneously from an environment is then something that you are asked to sell outside. In the case of the cyclotron it's a bit different so we see an opportunity to have foreign partners, partnering with a research team, with  
5 access to the technology, to develop some new knowledge, some innovation that may be an advantage for the market. So I want to be precise on the term commercialisation because it is not always the best way to describe what can be done when you're dealing with high technology and expertise that may impact on the market.

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MR JACOBI: Yes. That's what I wanted to pick up and indeed, we heard this morning from Mr Takhar about work that is underway to develop and manufacture substances and then to essentially build process maps, as they were described, essentially recipes. I am just interested to understand the  
15 extent to which you are able to provide support for those particular programmes and what you think the prospects are for those programmes?

MR BACCANTI: To develop radiopharmaceutical compounds he is at the – there is a way the cyclotrons are installed in a hospital environments. Nuclear  
20 medicine is one of the best opportunities that we have with the best technology for both therapy and diagnosis. They are fantastic methodologies that allows to modern medicine to detect problems in the patients at the very early stage and to treat and provide the therapy. To do it, you need the cyclotrons and this is what happens here, so here like in many places in the world, we are now in the  
25 capacity to deliver radiopharmaceutical compound, able to use that for therapy and diagnosis. By itself is not uniqueness. Your question is how – can you repeat - - -

MR JACOBI: No. Well, what I wanted to pick up on was it's been described  
30 to us that - - -

MR BACCANTI: Yes, the question is how the production can be – leverage can be used?

35 MR JACOBI: yes.

MR BACCANTI: I should also correct, it's not a matter to see the production of radiopharmaceuticals by itself as something that we can export. No, because normally they have a very short life and once they are produced, they have to  
40 be used exactly where you are for the local patients it is typically waiting, the production happens. If we think to what we have in terms of economic development, this is not because of the opportunity of exporting or selling the production of the cyclotron. It is more because of the knowledge that you can generate with research activities (indistinct) our environment and how this  
45 knowledge can create value if you partner with partners that are industrial, that

can of course scale up and transfer this knowledge in to the market. So I see a future where we deliver the production of radio (indistinct) for those important therapeutic and diagnostic needs. We will combine this capacity with a parallel capacity of research and we will leverage the research capacity in terms of economic development. How? By transferring knowledge. By partnering with industrial groups that may lever – may use the knowledge generated in Adelaide to solve problems and to transfer to other environments that will apply that knowledge to deliver benefits to the patients. This is what we see.

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MR JACOBI: Are you able to give us an insight in terms of the sorts of value that you think might be associated with the transfer of those kinds of knowledge? I think it was described in terms of process maps this morning, that is a particular technique to generate a particular radionuclide and then be able to sell that. Are you in a position to be able to express a view about what sort of value might be associated, or could be associated with the transfer of that knowledge?

MR BACCANTI: Yes. Also in this case, there are different drivers. Let's explain the benefit that in this specific case it can be created, so once you're (indistinct) the public understand the benefit, it would be easier to calculate it together the value related to it. The benefit is to deliver a radiopharmaceutical compound that has historically been produced by nuclear reactors that are now in shortage. There are not enough nuclear reactors for this type of technology. The idea is that to study an alternative route using cyclotrons. If this study will be successful then you will see the opportunity that around the world this specific radiopharmaceutical drug may be not only produced thanks to the (indistinct) to the nuclear reactor that we know will not be enough to fully cover supply, but also using the cyclotrons in the hospitals where the cycles are available, and there are really several hundreds of cyclotrons on the ward. So this is a benefit that we provide to the society.

Once the benefit is known, let us ask what is the value. There is (indistinct) and an initial value which is actually the cost to make this research. So if you are the laboratory and you have the team that is selected by an investor to run this work, of course the first value that you see is the cost, the money, that an investor should pay to have this research delivered. By itself, is something important that if you are clever and if you are wise and if we (indistinct) if we have (indistinct) it will be some value given to the society in Adelaide to pay for the research. Then there is a second - - -

MR JACOBI: Sorry, can I just ask this? Is that something in the millions of dollars or the hundreds of thousands of dollars or the tens of millions?

MR BACCANTI: No. We speak about research activity that involves a

5 limited number of scientists. So if you know what is a typical (indistinct) scientist, you add a few units of people and the terms of time that these are in the range of the year, it's evident that we're not talking about hundreds of millions, but very small in values. And this is the first value which is actually the prize that you want your client, the investor, to pay to feed now the research activity that you deliver, and then if you start it's only because there is an investor that covered the cost. Then it depends. We speak about research. You may end up with data that are not confirming the initial hypothesis or data that are actually confirming it.

10 In this second case, there is a second dimension of value that you generate, which is the knowledge that you generate is useful to satisfy specific needs, and this depends; it may be very bigger, because if the problem that you go to satisfy is very important from the economic point of view, and you are the one that has developed it and the one who knows how to do it, and the one that wants (indistinct) property for it, then you are in a powerful situation to negotiate with those industrial partners that you needed to implement it around the world to negotiate from a strong position the condition how this technology will deliver advantage.

20 MR JACOBI: We spoke a little this morning with Mr Takhar about the idea of providing education and training. That's through partnerships with either the manufacturers of the equipment to skill people who will be using cyclotrons. Do you see that as being a potential opportunity here?

25 MR BACCANTI: Yes. Let's think again to what we said before. Imagine that we will be able to start a new research project, and imagining, in the best, that we deliver a solution. We found a new way and around the world people will be able to use a cyclotron for a new application, and we are now in that situation. All this knowledge has been created here in Adelaide, and all over the world it will be well known that the team and the institute and the place is here. So you go out with another strength, not only the strength to be able to pass the intellectual property and the knowledge to (indistinct) but also to be the most believable place in the world where this knowledge has been generated, and so can you leverage this position by saying the over world, "Now that you have the opportunity to use the cyclotron for this second application, come here and I will teach you how to do it." You can really become the only place in the world where this knowledge is transferred to the operators around the world that will be using the cyclotron.

40 And that's another interesting part of the picture in terms of education, because according to our data, the cyclotrons are on the ward in the range of several hundreds, and in each, theoretically if the research will be successful, in each of these location you may find a scientist or operators that would like to learn about it. So you may easily imagine a future where you establish a training

centre, global, where these new technologies will be transferred to visitors that will learn about it.

MR JACOBI: I understand the prospective potential of these sorts of ideas.  
5 I'm interested in the context to which it is your view that they're likely or things are likely to happen in South Australia.

MR BACCANTI: Of course. This is why we're here. Of course we are not yet in the situation to give an announcement or to have a signed deal. We are  
10 in negotiation. We are in business development phase, as we say in our semantics. But it's very probable that the combination of the skills, of the technology, the commitment of the government, the support that we give, will be enough to get some wins. If this happened, my answer will be positive: yes, South Australia will become. First step: the place where the cycle  
15 research is happening. Second step: if successful, the place where the knowledge generated will be transferred from. Third step: the place where this knowledge will become a local training centre for global understanding about these new applications.

MR JACOBI: I think we dealt with commercialisation support at the start. I'm interested in the extent to which IP support is an important issue in this area and to the extent to which your organisation is able to help organisations such as SAHMRI with that particular process if one thinks about that process. Do you understand?  
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MR BACCANTI: When we speak about investment attraction in such a knowledge-intensive field, of course you can operate only if you're very clever in protecting your knowledge and securing it with a believably strong, global intellectual property. So this is something quite delicate that should be  
30 addressed by professional people. In case of SAHMRI, they have several streams of activities and several parallel opportunities to create knowledge and to transfer this knowledge and to create wealth because of this knowledge. This requires a strong attention in IP.

In this moment, considering that the cyclotron is one of the most interesting opportunities from those available in SAHMRI, SAHMRI has asked us as the government agency for investment attraction for the Life Scientists to help for all the support from the information point of view. They have extremely clever scientists, but if you are a clever scientist you have been spending your life in  
40 the laboratory understanding and studying. You cannot expect to be a good salesman at the same time. Either you're clever in certain (indistinct) or you or you are in others. So you always are successful if you combine different things.

45 I've been involved in this way because of that, because of the combination

between the availability of professionals with business experience to be combined with availability of strong scientists with a clear understanding of how knowledge can be produced. So we have now this involvement to create value from this case. This does not mean that we will be always involved in all the future IP generation in SAHMRI. It is possible that SAHMRI may decide independently from our - we cannot influence it. It's an independent body. It is possible that SAHMRI may decide in future to have an internal organisation to manage all the IP or to outsource it to another organisation. It is their call and they're free to decide how to progress in the future. I can tell you that in this case, we've been involved and what is happening is what I just described.

COMMISSIONER: Can I finish up with a couple of questions? You seem cautious about the opportunity to expand the sale of radioisotopes outside of South Australia. I'm assuming, though, that SAHMRI would be looking at new ways to develop new isotopes where that might be possible, potentially in Australia as opposed to overseas because of short - - -

MR BACCANTI: Yes. It is possible but we have to take into account the physics, which is the number of hours of life of these compounds. Considering the application to the human body, normally the level of radioactivity is extremely small and the decay of the radioactivity is very short. This is a barrier to any desire to develop any (indistinct) and this is the reason why locally you have to have many cyclotrons to make it look a very, very. So I confirm that I am quite conscious – quite cultural sir, because you cannot do, I cannot imagine to centralise industrial activity and to deliver solutions because of the logistics, the distance. I agree with you, that something may be done up level of Australia because it's a matter of (indistinct) for clever with the logistics and so on, but we cannot expect to do export or deliver bigger than a certain volume.

COMMISSIONER: And my final question, what are the barriers that you see from being successful in your work?

MR BACCANTI: The barrier is that there are many places that are trying to provide a similar solution, so the competition with several other research centres, there are not many industrial players that are able to and interested in investment, so this is the difficulty now, the market.

COMMISSIONER: Okay. Thank you very much Mr Baccanti, it was very useful, short review of what you're doing. We wish you great success, very important for the state and it helps us think about what the opportunities might be in this field of nuclear medicine.

MR BACCANTI: Thank you to you.

COMMISSIONER: We will now adjourn until 11 o'clock.

**ADJOURNED**

**[10.21 AM]**