**Cambridge English B for the IB Diploma: Teacher resource**

**Audio scripts**

**Audio track 7**

**Speaker:** First of all, I would like to thank you for inviting our team here to present our proposal for increased funding of research in the area of nanorobotics and medicine. I hope to clear up any confusion about the nature of our research. And I hope that you will share our enthusiasm for the technologies that we are developing. I’m sure that with your support we could accomplish great things.

Let me start by saying that much of the confusion surrounding our research has to do with the term ‘nanorobots’ or ‘nanobots’. The problem is that a lot of us see too many Hollywood movies, like *The Matrix*, that suggest that people will all one day become cyborgs – part human, part machine. These movies play to our fear that machines will one day take over the world, because they are so much ‘smarter’ than us. So, when scientists talk about putting tiny robots into human bodies to ‘fix’ them, it’s no wonder that people get anxious. But the idea of nanorobots controlling our lives is fundamentally inaccurate.

Nanorobots are no different from all of the other robots already in our lives: like your average robot in a warehouse, nanorobots simply sense and respond. They detect and deliver. In other words they do not actively think for themselves. Instead they react to situations in our bodies as we programme them to react to these situations. If a nanorobot is carrying a drug that is supposed to kill liver cancer, then it will also be outfitted with a sensor to detect those cells.

This is to say that nanorobots are not those sci-fi gadgets that build new organs or stop people from ageing. Rather, nanorobots target malignant cells directly. Unlike traditional medicines, you’re not dousing the body in poison, hoping that it reaches the thing the poison is meant to kill. Imagine the results of chemotherapy without the harmful side effects. Imagine medicine arriving at the site of an injury, repairing cells, without going through other organs or systems.

And this kind of technology is not unattainable. In fact we have already seen nanomotors operating successfully in living organisms. We know that it can and will work. But the main challenges we face are time and money.

Developing nanorobots is a very slow and tedious process. We spend half our resources on creating and obtaining enough cell material to run our tests. We look into petri dishes and see that our bots only repair a handful of damaged cells. But we don’t mind. We learn from our mistakes. The point is that we have to make thousands of mistakes before we learn anything. We need about one hundred thousand more tests before we can make reliable nanorobots. But that kind of testing would bankrupt our entire research centre.

To be frank, I am sometimes jealous of our colleagues in chemotherapy research. They are heavily funded, and although their progress is slow, their results are clear and measureable. Our funding, on the other hand, is much smaller, and, admittedly, so too are our achievements. What’s worse, our progress is rarely understood or even seen by the public. But with increased funding, I’m certain we could make giant leaps in the field of nanorobotics. Instead of talking about a few cells in a petri dish, we could be talking about experiments on living organisms. Instead of working from a few labs scattered across the country, we could have teams of ambitious doctors and PhD candidates working closely together.

I have come here together with the rest of our research team, so that we can answer any questions that you might have about our proposal. If you’d like, we can specify exactly how any additional funding would be spent.

Shall we open this up for discussion?