



## Senstech

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An exclusive report to be distributed with *THE INDEPENDENT*

Transcription of the Interview with:  
**Dr Azmi bin Hassan**  
Managing Director

**WORLD REPORT:** We have been here for quite a few months now interviewing several people and we have come to understand Malaysia's transition into a high-income economy. In your opinion as the Managing Director of a high-tech company specialising in the field of information and communications technology (ICT), where does Malaysia stand today? Can it be considered a technology exporter as well as a technology consumer?

**DR AZMI BIN HASSAN:** From my perspective, having been involved in many sectors from academics to the government and the so-called new microchip industries, I do agree that to a certain extent Malaysia imports a lot of technology. We started off in the electronics, semiconductors and automotive industries and now we are looking at biotechnology. To a certain extent we do import a lot of technology, especially from Japan and Europe, but we are also developing our own capability, mainly from our research institutions and universities. We are building slowly and we are in the process of having a smart partnership with our friends and collaborators in Japan and Europe to work together with us to develop new technology and ideas, in order to enhance and export, especially within our region. I am talking about our neighbours in Brunei, Indonesia, Thailand and so on. I think this is the key portion that we are developing. We feel that we have the strength to actually do this. That is my opinion.

**WORLD REPORT:** What is this strength?

**DR AZMI BIN HASSAN:** Since the 1970s and 1980s Malaysia has been sending many of its students to Europe and the United States. They return and these are usually the key persons that develop the technologies with the existing policy makers. We bring this knowledge and technology back to develop Malaysia. We are moving in this direction and this is basically the key driver of what is moving the automotive industry. Most of what we call the second management in the automotive industry was trained in Japan, Korea or the United Kingdom. They come back here and develop the marketing centre. We are building up the industry in Malaysia and then we will prepare to export. We are developing our own intellectual property (IP). With any technology, even biotechnology, we try to have a strong collaboration with our partners and hopefully from there we can develop more IP.

Going back to my own industry with Senstech we have good collaboration. The government started this particular project back in 2003. The government acquired number of IP patents from Japan. At that time the Prime Minister himself made a strategy to acquire this particular IP for these particular microchips. From there we further enhance the developments of the microchip with Japanese. Then we go from the next step after the IP, which is the prototype. Then we move from the prototype to a full commercialisation stage. This facility actually started off as a government office. Then in 2006 we incorporated Senstech as a subsidiary company of MIGHT to pick up this particular research and development (R&D) output from Japan and go from the prototype to full commercialisation. Senstech came into the picture at that particular time to really take these products from lab to market. But we need to have good collaborators because Malaysia cannot do this on its own. We have to work with our partners from overseas.

**WORLD REPORT:** Where do these partners come from? I believe you are working with strategic partners in Europe and Japan, but what types of partnerships are these? Are these knowledge-sharing platforms?

**DR AZMI BIN HASSAN:** In the case of Japan we have a good design house with people who have a good knowledge of microchips. They come in and assist us in developing new products. Back in Europe we have a similar cooperation with NXP Semiconductors.

**WORLD REPORT:** You keep mentioning commercialisation. Is the Malaysia Microchip (MM) Project already fully commercialised?

**DR AZMI BIN HASSAN:** We have developed this project and we have a series of microchips. The only one that has gone forward and is ready for full commercialisation is the MM3 version. We already produce more than 20 million of these microchips every year. Most of it, we utilise for certification projects for the censorship board in the government. This chip is already used on a commercial basis. The other versions, MM2, we completed the prototype levels so now we are at the stage of working with our partner to reach full commercial levels. We are testing the facilities and equipment to move from the prototype to full commercialisation. We have to do some tests and develop the new application but I anticipate this particular chip should be ready by the mid- to third quarter of this year. It is going to be very interesting.

**WORLD REPORT:** Speaking about microchips, can you tell us about some of the more practical uses of these chips?

**DR AZMI BIN HASSAN:** I forgot to mention specifically the radio frequency identification (RFID) chips. These are very simple chips with a minimal memory size, like a smart chip. Currently Wal-Mart is using these for their supply chain of product identifications.

**WORLD REPORT:** Like a barcode?

**DR AZMI BIN HASSAN:** The idea is that these RFID chips will replace the barcode. This is to simplify and speed up the process of identifications. I believe they are using them for the transportation tickets in London on the Underground and buses. They are also being used for simple products like apparel. We are testing many new applications like in log management, to replace the conventional coding systems with RFID. They have even begun this initiative in Europe, in countries like Finland and Scandinavian countries, which have plenty of logging industries. The way forward for this RFID is for baggage handling systems. One of the biggest applications right now is in Hong Kong International Airport (HKIA). Whenever you touch down in Hong Kong, your bag will be tagged by an RFID chip, whether you realise it or not. In HKIA, inside the conventional baggage tags, there is a barcode with the microchips inside, stuck to your bag. Anyway this implementation sometimes is limited due to cost; it's relatively expensive compared to barcode.

**WORLD REPORT:** It seems to be a very nice idea with huge potential. What is stopping you from 'full commercialisation'? What challenges are you facing? You

**just mentioned costs...**

**DR AZMI BIN HASSAN:** One of the main challenges is the ID itself. As you know the barcode system is widely used right across everywhere. But there are some limitations on the barcode. In terms of technology, we need to have a certain range, a line of sight, and so on but with an RFID this is no longer necessary. The technology can provide a good alternative. However, I do not think there are very many problems aside from the cost. They must have some technological problems because this microchip does have some limitations. If there is a presence of metals, it may not be able to read. If there is a presence of liquids, it may shorten the reading distance. But people are making a lot of improvements in these areas in the ongoing R&D in order to solve the problems encountered by a metal or liquid presence. But cost is still the biggest challenge. The barcode is only a printing cost. If we want to be considered for big volumes around the globe we have got to reduce the cost. When we began this project it was quite expensive at 5 or 6 cents (US). Now the price is down to 3 or 4 cents per chip. Big players from outside have good volumes for them to lower the price. But right now Senstech needs to promote these products to see a big adoption by the government itself with big volumes. With big volumes we will be able to adjust the cost of these units.

**WORLD REPORT: What sort of time frame are we looking at in terms of implementation of the RFID?**

**DR AZMI BIN HASSAN:** I really hope the government gives us the support to promote and adopt some of the existing government applications. There are many more potential applications such as road tax and the certification and identification of important documents and assets. All of this will bring in good volumes for us to move forward and lower the price. What we can offer from this technology is to improve the delivery system. It is not enough for us to go in, introduce marvellous technology and at the end of the day there is still the existing problem. In this case by using this technology we can actually improve the government's delivery system. We can also speed up the information process. By using this particular technology we can eliminate many manual processes. To give you an example, when we introduced this project, so far all of the information and application by the public to get this certificate is done manually. Once we introduce this RFID this processing of the public's applications for this certificate will speed up. The process of getting the invoices back to the public is sped up and simplified. Additionally, word will go

out to law enforcement, enabling them to check if a certificate is legitimate or not. With a special reader, we will be able to read the information in the chip and relay this information back to the database to check if a certificate is genuine. These RFID's could provide a complete ICT solution. They could speed up the entire process.

**WORLD REPORT: How does Senstech contribute to sustainability, sustainable economic growth and technologies that will allow Malaysia to develop steadily but sustainably, rather than sharply and then experience a crisis?**

**DR AZMI BIN HASSAN:** This is considered quite a tough question because whenever we introduce technology it is a matter of bringing Malaysia forward. We look at this in simple terms. I come from a technology background. I believe that technology can actually provide good solutions to the public and I believe that any technology we have can improve our way of life. This is for sure. From the Senstech point of view, our approach to this particular technology is that it can improve the internal system of the government. We can make the public happy with the government through this system. Then the public would benefit from this. This technology can also improve life in financial terms. The government has already invested in this RFID. The way I look at it, the RFID itself cannot solve every problem. They must have other technology platforms to bring in more new technology to complement the RFID. We have to put all of this technology together in the future in order to get more comprehensive solutions. This kind of technology can actually improve further and further and from there I would imagine that the public will benefit from this. The developments on this technology cannot stop here. We must have strong collaborations and strong support from universities and research institutions. I am very confident in Malaysia, as we have a lot of collaboration between public and private universities as well as with other countries to develop our tertiary education. This is where we could improve the R&D in Malaysia. I hope that by having these strong collaborations and research we can further develop new technology. We have a number of initiatives that include the memorandum of understanding (MOU) with the local universities. That is our interest in human capital and the support from the universities. It is a lot of work. We do a lot of studies on the shape of the microchips and their design. It takes lots of R&D, which is costly.

**WORLD REPORT: Do you have a final message that you want to send to this British audience about Malaysia?**

**DR AZMI BIN HASSAN:** It is a little bit difficult to talk about Senstech itself. If you talk about a bigger perspective, the support of people in Europe to Malaysia is very important. I found out myself because I trained in England for almost 10 years. What with the opportunism there I think we can work better with them than with the Japanese for instance. The Japanese keep a lot of things to themselves. Working with Europeans is very straightforward and if we have something, I think we can benefit faster. I think we can move faster if we have a good collaboration with Europeans. Now I think our human resources are learning faster when they are attached with Europeans.