Mr GORMAN: One of the things I've been interested in are the skill sets in Australia for deployment and full utilisation of this technology. I think it's great to talk about smart warehouses and things but if we don't actually have the skills to do it then I don't think that's going to change. Can you give us your insights into what skills we need to be investing in to build up those skills and where the shortages currently lie?

Mr Bryant: We've actually been working on this very closely with UTS. We've done a 5G skills acceleration program with UTS to try to accelerate that. But the skills are not necessarily around 5G per say; it's about how do you plan a radio network, which is almost the same whether it's a 4G, 3G or 2G network. How do you plan a radio network? How do you deal with interference? How do you do those types of RF engineering types of things? But on the other side of it is looking at industrial systems so very far away from what Nokia necessarily does but what companies like Bosch or ABB do. How did they take an industrial system and put in a 5G or a 4G sensor device? In the mining industry, for example, Caterpillar and Komatsu, the big mining vehicle manufacturers, are putting in 4G and 5G devices to allow remote control and autonomous control of their mining vehicles, and that is more of an industrial control system type of skill set. It is not really related to 5G as a technology; it's the overall technology of how do you change your industrial systems to take advantage of this new type of connectivity? Then there are skills, of course, if you look at deployment. We need sparkies. We need people that can wire up a base station, put all the connectors in place so there's—

Mr GORMAN: Do we have enough of the sparkies needed to do this rollout or is it going to be slowed down because of skill shortages?

Mr Bryant: I'll have to take that on notice.

Nokia Response:

In relation to the network rollouts, the augmentation of skills are in two key areas: 5G network planning and optimisation, and local delivery. Since every site built, or modified, requires an EME study as part of the approvals process there is a high demand for skilled engineers.

Globally Nokia has a number of these engineers which we redeploy as required. Further Nokia has partnerships with universities like the University of Technology, Sydney, for 5G Skills training and would encourage further state-based and federal programs.

And your Chinese manufacturing products are sold into the Australian market?

Mr Bryant: I'll have to take that on notice.

Nokia Response:

Nokia has a global manufacturing supply chain and leverages that as appropriate to each customer and market condition

Mr GORMAN: In your manufacturing in China did you have to set up a joint venture?

Mr Bryant: Yes, there is a requirement for a joint venture.

Nokia Response:

No. Manufacturing is done all around the world and, and to clarify Mr. Bryant's response, was not a requirement here.

Mr GORMAN: What were the requirements in terms of protection or handing over of intellectual property?

Mr Bryant: I'll take that on notice.

Nokia Response:

all aspects of Nokia R&D performed in any location is under Nokia corporate control.

Mr GORMAN: You'll probably also want to take this on notice. Were there any other administrative or regulatory conditions of manufacture that would be different in Nokia's normal business practices?

Mr Bryant: I apologize; I'll have to take that on notice.

Nokia Response No. As you would expect, Nokia has strong, robust and standardised processes which apply in every country we operate within.