

Transcript for **Making snow for the Olympics**

**Joe VanderKelen, President of SMI Snowmakers:** You know, I've probably spent two-thirds of my life thinking and working on snow and snowmaking projects around the world. Machine-made snow is like two-week-old natural snow, in that natural snow sometimes takes hours or days to form as it's going through the sky in small particles and it'll form those dendritic arms.

There you go.

We're forming that snow crystal in somewhere between 3 and 15 seconds. Our snow is more like a BB or a graupel and it doesn't have the dendritic arms, but even natural snow after it's compacted loses those arms. I'm a second-generation snowmaking person; my father had been a skier and started to see a need for snowmaking. People looking to stabilise their business and for some type of insurance and without snow they don't really have a business.

Our company has been involved in the Winter Olympics for a long time now. We are quite proud of being associated with Sarajevo, Calgary, Salt Lake, Nagano, with Vancouver and now with Sochi.

This was a bit unusual in that it was a system where there was no snowmaking – there was really no resort there. We were fortunate to get access to a couple of helicopters and we found a beautiful, pristine, clear, cold water source. The higher up the mountain you can find the water, the less energy it takes to pump and deliver it. Finding this river on a shelf where we could build a couple of lakes to store the water sort of anchored the snowmaking system solution.

They have a snowmaking capacity of 12,000 gallons a minute and they have over 400 of our snowmaking machines and they are all fully automated. They communicate via fibre optic or via radio modems and it's a very big, complicated, high-energy-using system, but very efficient and very effective for the size of it.

There's some concern about what's going to happen with the weather there. It can be a bit marginal of a climate. Fortunately the cold weather has set up across the northern hemisphere and they are off to a very good snowmaking start. The only thing that really cancels an event per day might be fog or visibility where the athletes can't see where they are going and they're used to that.

Snowmaking involves a lot of water, compressed air mixing in a small nozzle with water droplets, creates what we call 'ice seeds' and those ice seeds will then nucleate the bulk water blowing it out and then the cold environment freezes those small water droplets. Most of the snowmaking water sources that we use are groundwater from wells or they're surface water from rivers or lakes, and they are generally very clean and very pristine so in general most people can go ahead and eat the machine-made snow just like they'd eat the natural snow!