

BY MARJA MAKAROW

Science lights the way to the future

Heading back to Helsinki after an intense business trip to Oslo last October, I found myself seated in Finnair's very first, brand-new A350 XWB aircraft. It turned out the plane was conducting a few test flights in Europe before embarking on long-haul routes between Helsinki and Asian capitals.

The extra-wide body was indeed shiny and comfortable, but what really caught my eye was the lighting. The cabin's ceiling pulsed in enchanting, slowly changing colours – a soothing pastel as we headed up into the skies, and a different shade as we headed back down again. Instead of concentrating on the documents I was supposed to be reading, I sat back to admire the Aurora Borealis-like spectacle.

The light display that livens up the interiors of the A350 XWB fleet is designed around blue and white light-emitting diodes – LEDs for short – a breakthrough technology enabling thousands of different colour options. LEDs were developed by the Japanese scientist Shuji Nakamura, for which he was awarded the 2014 Nobel Prize. Before that, in 2006, he had already received one of the world's most important innovation prizes, the Millennium Technology Prize.

The prize is awarded by the Technology Academy Finland, which was established ten years ago by Finnish high-tech industry in partnership with the Finnish government and academic institutions.

Back in 2006, few people had even heard of LEDs, but everyone was able to appreciate the brilliant luminosity of the new traffic lights on our city streets and the cute chains of fairy lights that brighten up our Christmases. Today, LED applications are found everywhere. They also enable new types of television and computer displays, and have sparked a globally flourishing business sector. LED technology enhances quality of life in areas that lack electricity, as LEDs can be powered by solar energy. They are also sustainable

because they consume far less energy and have a much longer lifetime than the Edison light bulb. According to fresh statistics, an increasing number of Finnish households have adopted LEDs, which has decreased their annual lighting energy consumption by 9 per cent.

LED lights not only enhance our daily life, but they also provide new opportunities for artists. From January 6 to 10, Helsinki will host the eighth Lux Helsinki festival, which features magnificent LED-based light artworks realized by some of the most fascinating international and Finnish artists.

Innovations that change the world owe their existence to years of research and hard work. Now more than ever, we need to transform new research findings into solutions that help us address global challenges and create growth and prosperity. This is among the reasons why awards like the Nobel Prize and the Millennium Technology Prize are so very important. ●

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