We are all familiar with how smart building design and technology are helping to improve our home living experience. We have electronic suite access and digital lock security systems, electric retractable draperies and screens, automated sound systems, lighting modulation and monitoring systems and everything operational from your cell phone to complete the digital living experience. Home automation platforms are being developed to make the living experience seamless. Networks incorporated into building mechanical and electrical infrastructure mean that communications and technology are increasingly part of what people expect in their homes.

To date most of these technology advances have focused on the interior of our homes, but why not embrace and apply them to exclusive use common areas (the “EUCA spaces”), in other words the balcony or terrace outside your condominium window? I believe that we are on the cusp of seeing such technological advances in our outdoor living spaces because home owners want to increase the quality of the experience of their balconies and terraces, and property managers and condo corporations are looking for improved ways to monitor and ensure safety.

Property management procedures, building codes, condo community rules are being revised to enable the inclusion of sustainable living technology because sustainable living through smart homes has emerged as a core value for many condo home buyers and owners. In 2016 Ted Maulucci, a Toronto based smart building technology expert, was interviewed at the 2016 RealComm / IBcon Commercial & Corporate Real Estate Conference held in Silicon Valley about the current and future installation of sustainable technology in condominium communities and he had this to say: “People are not buying a box to live in any more. They are buying an experience and so that people proudly say that they live in such and such a building.” He went on to say, “There is now more so than ever executive buy-in to support the addition of sustainable technology systems because people want it. It’s no longer a frill. People want it and if they
aren’t permitted to install it in their purchase they will speak with their feet and go elsewhere. Software platforms are being developed and the next generation of products and services are being created.”

With balconies and terraces accounting for anywhere from 5% to 20% of the typical condominium home floor plate, they are an important part of condominium living lifestyle and experience that Mr. Maulucci refers to. According to a recent survey in the USA, 51% of home buyers find beautiful and sustainable outdoor living space the most attractive quality when searching for their perfect home; outdoor living spaces are attractive to more buyers than open floor plans!

As a professional designer and landscape architect who designs beautiful transformations of balconies and terraces, I think a lot about how to make EUCA spaces safer and more enjoyable. Transforming the balcony or terrace into an outdoor living room is an increasingly popular home upgrade. It’s an elegant way to reimagine how you live in your home and increase your living space.

Although the Condominium Act, 1998 and each particular condominium’s governing documents may require certain conditions to be satisfied before an owner is permitted to make any change to the EUCA, an open discussion with the board and/or management should help owners understand what these conditions are and how to satisfy them.

Of course, when I talk with condo owners, I hear very common reasons why they don’t make the most of their balconies and terraces, and that’s when my mind turns to technology. Here’s a rundown of what I hear:

- for high-rise dwellers, fear of heights is a big one (and a beautiful garden design can go a long way to alleviate that sense of danger and exposure);
- then there are the extremes of weather: too much wind, too much sun, too short a season;
- a lack of privacy when your balcony is overlooked by another building, or you smell your neighbour’s cigarette or cooking, or have to hear their music.

These concerns boil down to key issues about safety, comfort and mutual respect between people living close together. Smart building design and new technologies for EUCA spaces have potential
to address many of these issues. So now let’s look at the concerns condo owners have raised with me and imagine how sustainable technology solutions could be applied.

1. Too much wind: Can you imagine being able to mitigate the wind so that furniture doesn’t fly off the balcony when it gets windy? Retractable screens with electronic or manual operation, can reduce the effects of wind by as much as 50%, provide privacy and lessen the intensity of the mid-day or afternoon sun. At the same time, that wind could be turned into energy. Imagine the wind vibrating the vertical blades of a small wind turbine specifically designed for a balcony and capturing the kinetic energy to drive a compact generator. On the safety side, wind sensors mounted on balconies could notify owners (and property managers) when wind speeds indicate that furniture and accessories should be secured.

2. Too much sun: The examples of retractable screens that deflect wind can offer protection from sun and add to privacy as well. And if you like the amount of sun you have, imagine having decking and exterior wall systems that capture and turn sunlight into electricity or heat water? Imagine those systems being built in to the infrastructure of your building?

3. Too short a season. Ceiling or wall-mounted infra-red heaters are available now, operating with a remote control, that will extend your enjoyment of your EUCA space well into the shoulder months of early spring and late autumn.

4. Too much noise: For urban condo dwellers, noise attenuation devices are being prototyped now that will mask the sounds of the city from the street below when you are on your balcony. A more fun thing to imagine are clear plastic (Lexan type) parabolic sound containment cones, mounted to the ceiling of your balcony, so that music or audio transmissions via Wi-Fi can be listened in specific areas of your balcony without bothering your neighbours, all the while blocking out sounds from the street. Think of it as having your own Maxwell Smart “Cone of Silence” device. The Toronto Reference Library uses them to great effect!

5. Too many odours: Smokeless electric BBQs are available now that are

**Ceiling or wall-mounted infra-red heaters are available now, operating with a remote control, that will extend your enjoyment of your EUCA space well into the shoulder months of early spring and late autumn.**
Technology solutions are being created to meet people’s expectations of a more comfortable, safe, and beautiful outdoor living experience, even perched high on a concrete and glass building.

cleaner to cook with, and control most of the smoke, limiting cooking odors wafting onto adjacent suites. Taking it a step farther, we can imagine residential buildings designed with intakes to capture BBQ and cigarette smoke and pass it through activated charcoal filters. Cleaner air for everyone!

Technology can also increase your enjoyment of your balcony or terrace:

6. Growing plants: Water on balconies is a concern for property managers, both for its weight and because it can shower down on residents below. Closed loop irrigation systems are being developed now, in which all the water is contained. Sensors monitor the moisture and fertility of the growing medium and send a notice to your mobile device advising you to refill your reservoir.

7. Illumination: The days of the black box balcony at night are over. Low-voltage LED systems are available with remote controllers to create a beautiful ambience that extends your inside lighting to the outdoors, blending the feeling of the inside with the outside and the cityscape beyond. Outdoor lighting is as lovely on a winter evening as it is in the summer.

8. Design simulation: Visual and spatial modelling technology can simulate the look and feel of a balcony upgrade before it is built. Your model can simulate sun exposure at different times of year, specific to your balcony or terrace location. Simulations are great to helping you choose the right furniture, decide on layouts and accessories, and visualize colour combinations. This is a technology my company uses every day.

From this brief summary, you can see that technology solutions are being created to meet people’s expectations of a more comfortable, safe, and beautiful outdoor living experience, even perched high on a concrete and glass building. Everything we might desire isn’t available yet, but sustainable technology products and services are on the way.

I believe that condo home owners deserve personal outdoor spaces, products and systems that are well thought out, beautiful and sustainable. Yes, technology can help transform the use and enjoyment of your balcony or terrace. It is fun to be part of this trend.