

electrification is often an afterthought to remedy the problem. WPE has been actively involved earlier in projects to emphasize the impact mechanical electrification has on the energy model to reduce risk later down the road,” says Johnson.

Ben Rajewski, engineering manager at Williams Engineering, echoes Kaur and Johnson’s sentiments and says the dominant trends he is seeing in the electrical and communications systems industry continue to be electrification and sustainability. Clients are increasingly prioritizing climate change and their carbon footprint, leading to a surge in the demand for the electrification of building systems.

“We have been working on studies to assess the existing building capacity, not only to incorporate EV chargers for all tenants, but also to evaluate the implications of replacing natural gas with electric heating and adding air conditioning to previously non-air-conditioned units,” explains Rajewski. He foresees a future where many buildings will require larger electrical services to accommodate this growing electrification trend.

The increasing electrical demand in buildings poses challenges for electrical utilities to meet the surge in power demand, as well as for building owners to find adequate space for larger electrical equipment. “We will be working with clients to help redesign their spaces to size their new service, accommodate the new electrical equipment in existing spaces, and provide power to the new electrical devices. We have already done this for a variety of clients and expect this trend to continue. Various manufacturers are also making technology that will help share power and not overtax existing services,” Rajewski says.

Williams Engineering has been actively involved with a client in Yellowknife, exploring alternatives to a diesel generator. The focus is on implementing green energy solutions like solar panels with battery storage. Rajewski adds, “We presented the client with several options, and we are now awaiting their decision on whether to proceed with the construction.”

Looking ahead, Rajewski expresses both excitement and caution regarding the impact of AI on building design. While AI can enhance efficiency and offer innovative options, Rajewski emphasizes the ongoing importance of effective communication between engineers and clients, as tasks like drafting may transition more towards editing in the future.

Jonathan Lashin, VP of pre-construction and industrial at Houle, also emphasizes the increasing focus on net-zero buildings, electrification, and moves toward district energy centres and alternative energy systems incorporating cogeneration (cogen). Lashin explains, “We are seeing increasing demand for district energy centres for communities – shifting energy to a centralized and shared facility for multiple buildings versus individual systems in each. This improves efficiencies and reduces losses through the systems. In the shift to investing in sustainable energy, we’re seeing more cogeneration where waste heat is being used to generate alt power, providing reliable standby power and reduced reliance on natural gas. We’re seeing this more with wastewater treatment plants and other industrial facilities.”

Paul Maddox, director of technology sales at Houle, highlights the technological advancements being seen in the industry, stating, “The industry is seeing a rise in IP addressable devices for seamless connectivity. Customers are migrating to Wi-Fi 6 and Wi-Fi 6E for enhanced wireless communication. There is a growing trend toward converged networks, integrating various building systems for improved efficiency. Passive Optical Networks [GPON] infrastructure supports net zero initiatives and sustainability.”

Houle successfully implements many of these cutting-edge electrical and communication solutions into their projects. Lashin mentions, “Notably, we recently completed the base build at The Stack in downtown Vancouver, which



Charging stations, The Stack, Vancouver, B.C.

is Vancouver’s tallest and Canada’s greenest commercial high-rise tower. It has been designed to achieve LEED Platinum standards and is the first building to receive the CAGBC’s Zero Carbon Building – Design Standard certification.”

To address these trends, the experts at Houle say early contractor involvement is becoming more important. “We are seeing more opportunities to come in as a design-assist partner and be part of the collaborative team delivering these important projects,” says Maddox.

Nemetz (S/A) & Associates Ltd. has also experienced significant developments in the field of electrical and communications systems of late. According to Steve Nemetz, CEO/president, these include the use of digital enablement for designing smart buildings and advancements in their master planning of Hydro, Telus, and Shaw utilities. There has also been a widespread shift towards fibre among all communication providers, including the implementation of fibre to each residential unit setups. “Smart Building technology using digital enablement is becoming a prominent design feature,” says Nemetz.

In terms of recent projects, Nemetz (S/A) & Associates has been actively involved in several exciting endeavours, such as the Oakridge Redevelopment, Brentwood and Lougheed Town Centres, Metrotown Towers, River Green, and 320 Granville, all of which aptly demonstrate the company’s expertise in electrical and comms systems.

Looking ahead, Nemetz envisions both challenges and opportunities and is particularly enthusiastic about the company’s master planning initiatives, Wired Score certifications (having become Certified wired score professionals), and the growth of their digital enablement department. However, one challenge that lies ahead is raising awareness among developers about the available options and the advantages they offer. “To address this, we are providing seminars on master planning, wired score, and digital enablement to disseminate crucial information,” says Nemetz.

As demand for skilled electrical and communications systems continues to grow, the MCW Group of Companies (MCW) is responding and recently announced the acquisition of Alberta-based Maskell Plenzik & Partners Engineering Inc. (MP&P) – a company that specializes in electrical, lighting, communications, security, and forensic consulting engineering services for the built environment.

“We are excited at the prospect of what MP&P can bring to MCW. Their innovation and expertise in power systems, lighting, communications, life safety, security, urban development, and forensic investigations will further strengthen MCW’s presence in Alberta and allow for continued growth in multiple service areas across Canada,” says James Furlong, managing partner at MCW.

“MP&P was built by passionate, motivated engineers who have earned a strong reputation in delivering creative but practical solutions for our clients, and we see similar values within MCW,” says Ken Maskell, principal of MP&P. “We are thrilled to be joining a larger, national organization to not only provide more value for our clients but to also take on a larger, more diverse range of projects.”

These developments highlight the dynamic nature of the electrical and communications systems industry in Canada. With a focus on electrification, sustainability, renewable energy, and technological advancements, the industry is at the forefront of shaping a future defined by smarter, more connected environments. By embracing innovative solutions and collaborative approaches, engineers, experts, and companies in this field are driving positive change and making significant contributions to efficiency, sustainability, and the overall well-being of communities. **A**



Electrical room, The Stack, Vancouver, B.C.

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