Electro-Federation Canada's

Training Module

Electrical Industry Playbook: An Introduction to the Market, its Players and the Business

Glossary

This reference document defines terminology and general terms used throughout this training module. It's recommended that you **print this glossary before beginning the module** to help guide your understanding of key concepts introduced.

Architect: responsible for developing the design of a building or space, taking customers' requirements and combining them with the advice of consulting engineers and designers. Architects are also largely involved with ensuring the right products are selected and installed correctly.

Automation controls: the use of various controls and sensors to operate equipment such as machinery and processes in factories, with minimal or reduced human intervention.

Artificial intelligence (AI): the ability for a digital computer or computer-controlled robot to perform tasks commonly performed by human intelligence.

Commercial market: involves public and private office buildings (new construction and renovations).

Design/Build model: for these projects, the Design and Construction team works together as one single unit. This team develops the spec and puts a bid out to distributors for product pricing. This model offers project owners a packaged solution, allowing greater coordination on projects. Hybrid service providers are an example of those who take part in the Design/Build model because they integrate their services into one single offering. (Relates to: Traditional Model, P3)

Digitization: enabling, improving or transforming business functions by applying digital technologies and digitized data to create insight and knowledge for businesses to take action.

EBITDA: stands for 'Earnings Before Interest, Taxes, Depreciation and Amortization' (or Net Profit) and represents a measure of company profitability. Manufacturer and distributor partners will have regular financial discussions that centre on EBITDA, sales growth, improving gross margins, maximizing inventory turnover and lowering operating costs.

Electrical Contractor: this tradesperson is most relevant to our industry and is typically the primary customer for most distributors. As the title of this trade indicates, this type of contractor is responsible for all electrical installations in a new or renovation construction project. Electrical Contractors work closely with electrical inspectors to ensure installations are safe and reliable.

Electrical Distributor: this industry partner buys products from manufacturers and sells them to installers and end users. There are several types of distributors:

- **Full-line Distributor:** offers a complete basket of electrical products. These distributors have a physical storefront with local stock, value-added services, a direct sales organization, and web presences.
- **DIY Retail Distributor:** (e.g. The Home Depot) 'Do-it-Yourself' retail distributors stock any product that's related to home building and improvement.
- **Online Retail Distributor:** (e.g. Amazon) distributes some day-to-day electrical products online exclusively. Types of products sold online include: lighting, surge protectors, power outlets, wall switches and extension cords.
- **Mass Merchant:** (e.g. Walmart, Canadian Tire) stocks anything that appeals to a consumer, from housewares, sporting goods, and clothing to electrical products and furnishings.
- **Specialty Distributor:** focuses solely on a specific portion of the electrical portfolio. For example, in the lighting industry an example of a specialty distributor business is a Lighting Showroom.

Electrical Distributor-Manufacturer Partnerships: relationships between distributors and manufacturers take on different forms, including:

- **Exclusive Partnership:** a distributor has exclusive access to products for a geographic region
- **Selective Partnership:** a select few distributors have access to products to several regions
- **Broad or Mass Partnership:** products have full coverage across all distribution channels

Electrical Engineer: this type of engineer is professionally certified to select electrical products for projects. They apply their knowledge of electricity, materials, and code requirements to evaluate and select suitable electrical systems, products, and components. Ultimately, the electrical engineer is responsible for ensuring the electrical safety of a project.

Electrical Manufacturers: companies that produce**,** or are brand owners, of electrical products (i.e. wire & cable, lighting, distribution products, controls

Electrical Manufacturers' Representatives/Agents: third-party sales agencies that partner with manufacturers to sell electrical products in an assigned region or market.

Electronic Data Interchange (EDI): a system that enables the electronic transmission of orders from distributors to manufacturers.

Energy Retrofits: focuses primarily on energy-efficient upgrades as a means to lower energy consumption and maintenance costs for the End user. Energy retrofit projects are common in Commercial, Industrial and Institutional/Government segments.

End users: represents a firm or individual that purchases products or services for its own consumption and not for resale (i.e. the 'ultimate consumer'). End users drive the demand for goods and services and are the final link in a value chain.

Full-space Renovations: involves the complete renovation of a space within a home or building.

General Contractor: this tradesperson is the primary lead for new and renovated construction projects. The General Contractor must follow design blueprints and product requirements, as outlined by Specifiers. They are responsible for the entire construction/renovation of a building, including installing all electrical and mechanical systems, as well as flooring, drywalling, and landscaping. To get these jobs done, the General Contractor hires other skilled tradespeople such as electrical contractors and mechanical contractors.

Green technologies: the use of systems and technologies that are used to mitigate or reverse the effects of human activity on the environment. Examples: LED lighting, electric heating systems, solar panels, battery storage.

Human-centric lighting: a type of lighting that benefits the biological, emotional, health and general wellbeing of people. This is achieved by dimming a light source to mimic the levels of sunlight throughout the day.

Hybrid Service Providers: includes firms that offer specification and installation services as *one solution* to end users. Hybrid Service Providers include:

- **Engineering, Procurement and Construction (or EPC) companies**: these firms provide End users with a "one-stop" solution for engineering and designing projects, procuring all required equipment and materials, and fully constructing building, plant or public infrastructure projects.
- **System Integrators:** this trade designs and develops assembly lines and machines within factories. System Integrators work with electrical, plant, and manufacturing engineers to assess business needs and define technical requirements in order to develop integrated solutions that connect otherwise incompatible systems. System integrators have started to gain traction in residential and commercial markets because of their expertise in combining hardware, software, networking, and storage products from multiple vendors.
- **Energy Service Companies (or ESCOs):** these firms deliver energy-efficient solutions to help end users reduce their carbon footprint. ESCOs work with property and facility managers in commercial buildings and plant engineers in industrial plants, to replace lighting fixtures, ventilation systems and other products, with solutions that consume less energy.

Industrial Internet of Things (IIoT): this is part of a larger concept known as the Internet of Things (IoT), which involves a network of intelligent computers, devices and objects that collect and share data. The application of IoT to the manufacturing industry is called **IIoT** and involves leveraging intelligent, connected devices on the factory floor.

Industrial market: involves manufacturing plants (new construction and retrofitting of a factory floor).

In-Plant Industrial Automation: refers to projects for the interior of a manufacturing facility (involves designing and constructing a factory production line; not a building).

Installer: there are two main types of installers in the electrical industry – General Contractors and Electrical Contractors. These skilled trades are responsible for the construction phase of projects.

Institutional/Governmental market: includes schools, hospitals, airports, roads, bridges, tunnels and other public infrastructure.

Interior Designer: responsible for making interior spaces functional and safe, and ensuring decorative items and products such as lighting, sensors, and controls, as specified by the electrical engineer, are aligned with the overall look, feel, and style of their design.

Leadership in Energy and Environmental Design (LEED): a rating system that is recognized as the international mark of excellence for buildings that implement green, energy-efficient solutions in their design, construction and operation. Learn more at https://www.cagbc.org

Plant Engineer & Manufacturing Engineer: these engineers commonly work in Industrial plants and are responsible for designing safe and operable production lines and machines for the factory floor.

Public-Private Partnership (or P3): involves the new construction of Institutional/Government projects. The P3 model is typically used in the development of large public projects, including hospitals, bridges, highways, schools and new government buildings. Includes a group of companies called "consortiums" who compete against one another to win the project. Each consortium is responsible for developing an end-to-end solution that includes all project requirements, including building design, construction, maintenance, and financing.

Renewable technologies: involves technologies that use energy from resources that have no fixed limit such as solar, wind, hydro, biomass, etc. Renewable technologies rely on natural processes to replenish energy equal to or faster than the rate at which they are consumed. (Examples: solar panels, wind turbines, battery storage).

Residential market: involves the homes and condos markets (new construction and renovations).

Retail market: involves the renovation (or retrofitting) of stores and other shopping spaces where goods and services are sold.

Retrofit: to install, fit or adapt a device or system for use with something older. Also referred to as 'Renovation'.

Robotics: technology that deals with the design, construction, operation and application of robots.

Sales per square foot: a store's average revenue for every foot of sales space. The formula is derived by calculating the total in-store sales, divided by the selling area in square feet.

Smart technology: applications that connect with software, mobile devices and operating systems.

Specifiers: this group includes professionals who have technical, engineering and design expertise. Specifiers work with End users to understand their needs, decide how a project will be designed and constructed, and create specifications for projects. Members within a Specifier team will vary depending on the type of building project and the end user involved, however, the team typically consists of a combination of Engineers, Architects and Interior Designers.

Specification (Spec): a list of products that are needed for a project, as developed by Specifiers (technical and design teams). Also referred to as a bill of materials. There are different types of specifications:

- **Specified alone** (also referred to as a 'Sole Spec'): A single manufacturer with a specific catalogue number is identified. No other products qualify.
- **As 'equal with alternates'**: Specifiers have included more than one manufacturer's catalogue number, listing several brands as acceptable options.
- **Generic spec:** when a spec has no products listed at all.

Note: most specs will have some options and will therefore be listed as "equal with alternates."
If the product is 'specified alone', the ultimate power is in the hands of the named product

manufacturer(s), as they have 100% chance of winning the project. On the other hand, if the spec is 'generic', then the contractor and distributor have multiple options to consider leaves the field of play wide open.

Stock-and-flow Business: represents products that are physically stocked in a distribution warehouse and can be easily accessed by contractors for their day-to-day needs. This includes products such as wire and cable, junction boxes, lighting, lamps, switches, receptacles, pipes, fittings, and much more.

Sustainable energy: the practice of using energy to meets today's demands without compromising future energy production needs. Sustainable energy practices must rely on resources which can continue to supply our needs. These sources must be used cautiously so that they will not be used up, run out, or otherwise become unusable.

Traditional Model: this project type is common for new construction and renovations and involves two teams that work separately: Design and Construction. The Design team includes Specifiers who work with End users to design blueprints and write specifications for projects (Design Phase). The Construction team includes a General Contractor who works with the end user to build a project (Construction Phase). (Relates to: Design/Build Model, P3)

Urbanization: the movement of people from rural/countryside areas to towns and cities. Today, nearly 55% of the world's population lives in cities, and this number is expected to increase to almost 70% by 2050.

Utility market: any entity that generates, transmits or sells electricity gas, water and other related services to communities.

Vendor Managed Inventory (VMI): a system that allows manufacturers to account for inventory in their distributor's locations. VMI also lets manufacturers access product consumption data from distributors, allowing them to replenish products as needed and gain more insight into inventory levels to provide better responses.

WELL Building Standards: a performance-based system for measuring, certifying and monitoring features of the built environment that impact human health and well-being, through air, water, nourishment, light, fitness, comfort and mind. Learn more at https://www.cagbctoronto.org/education/well-building-standard.