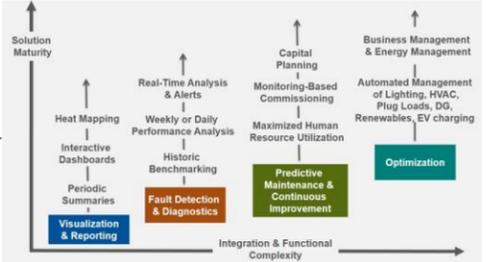


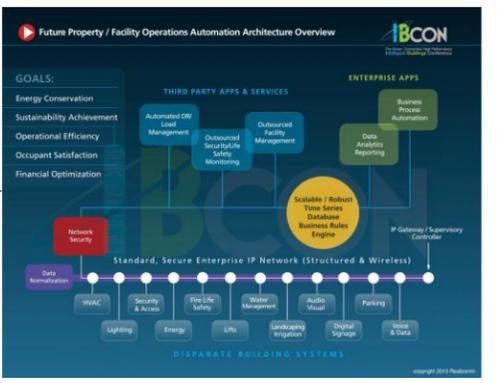
Commercial Sector Connected Building Roadmap

Intelligent / Connected Building Goals:

- Energy Conservation
- Sustainability Achievement
- Operational Efficiency
- Occupant Satisfaction
- Financial Optimization



CABA / Navigant "Next-Generation Building Energy Management Systems"



- Business Opportunities:**
1. Data storage
 2. Energy storage
 3. Distributed generation
 4. Mobile storage (i.e. electric vehicles)
 5. **Transactive energy:** "A system of economic and control mechanisms that allows the dynamic balance of supply and demand across the entire electrical infrastructure using value as a key operational parameter."

Activities

- Facilitate discussion with customers regarding the benefits of electronic documentation.
- Provide education for trade allies (architects, consultants) regarding electronic documentation.
- Integrate BIM within the existing Commercial New Construction program offer and process.

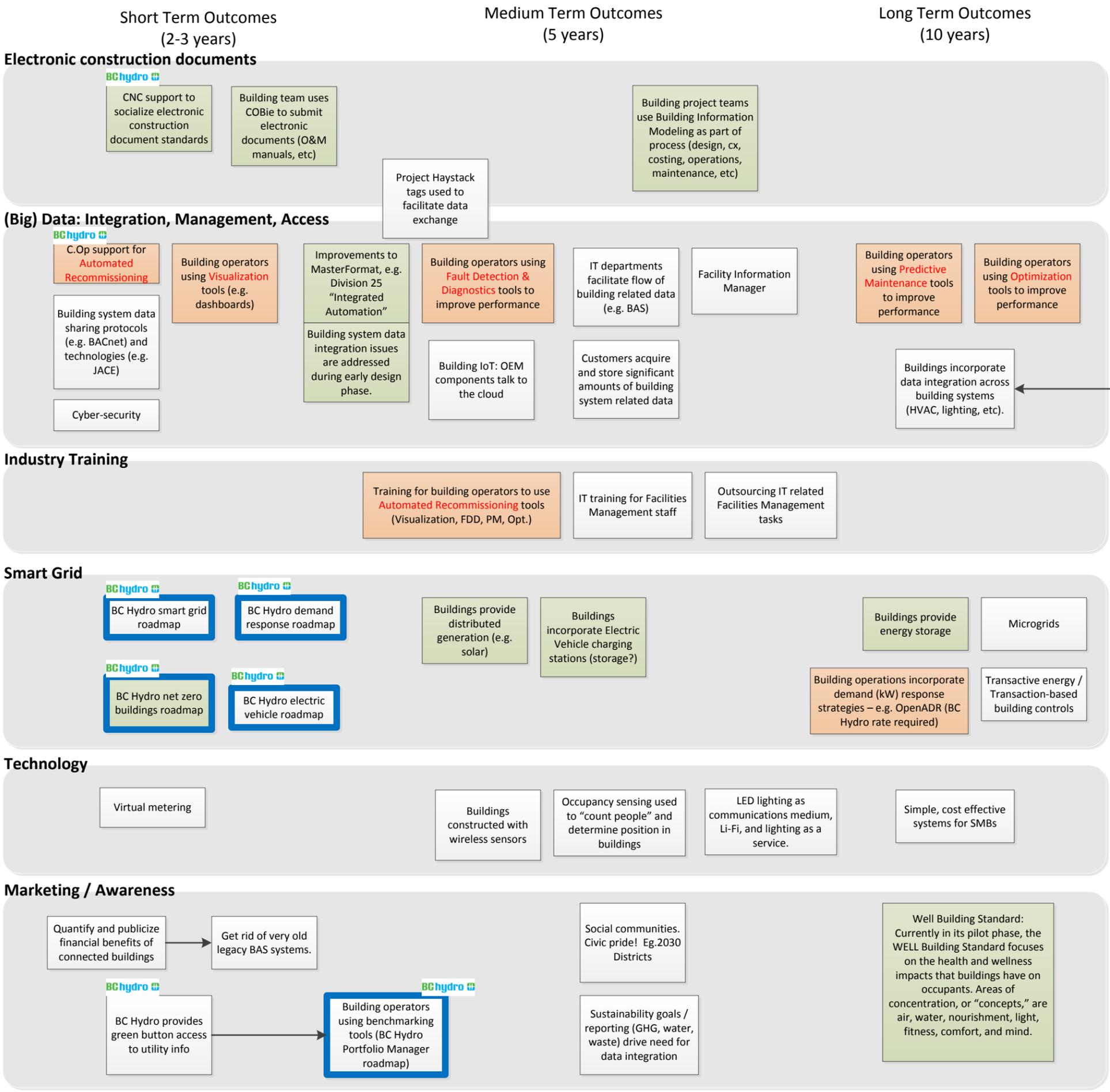
- Support from Continuous Optimization for ongoing "automated recommissioning" activities (e.g. Fault Detection & Diagnostics).
- Work with trade allies to improve construction specification templates for connected building technologies.
- Incorporate data integration issues and solutions into early design phase within the existing Commercial New Construction program offer and process,
- Evolve Energy Visualization Portlet to incorporate Visualization functionality.

- Support from the Continuous Optimization program for building operator training for automated recommissioning related software tools. Training could be either vendor specific, or generic.
- Continued support for the new building operator course being developed at BCIT.
- Explore and promote the integration of Facilities and IT Management.

- Increased Customer Care / Power Smart involvement in BC Hydro's "Grid 2025" initiative.
- BC Hydro Power Smart has created discussion papers and roadmaps for demand response, solar PV distributed generation, and electric vehicles.
- Further assess and understand the role of transactive energy as it would apply to BC Hydro.

- Support pilot projects to investigate the potential of innovative technologies.

- Continue support for Portfolio Manager building benchmarking tool
- Participate in CABA / NRC study "Improving Organizational Productivity with Building Automation Systems".



Legend / Colour codes:

- BC Hydro Activity
- Commercial New Construction
- Continuous Optimization
- Separate Roadmaps