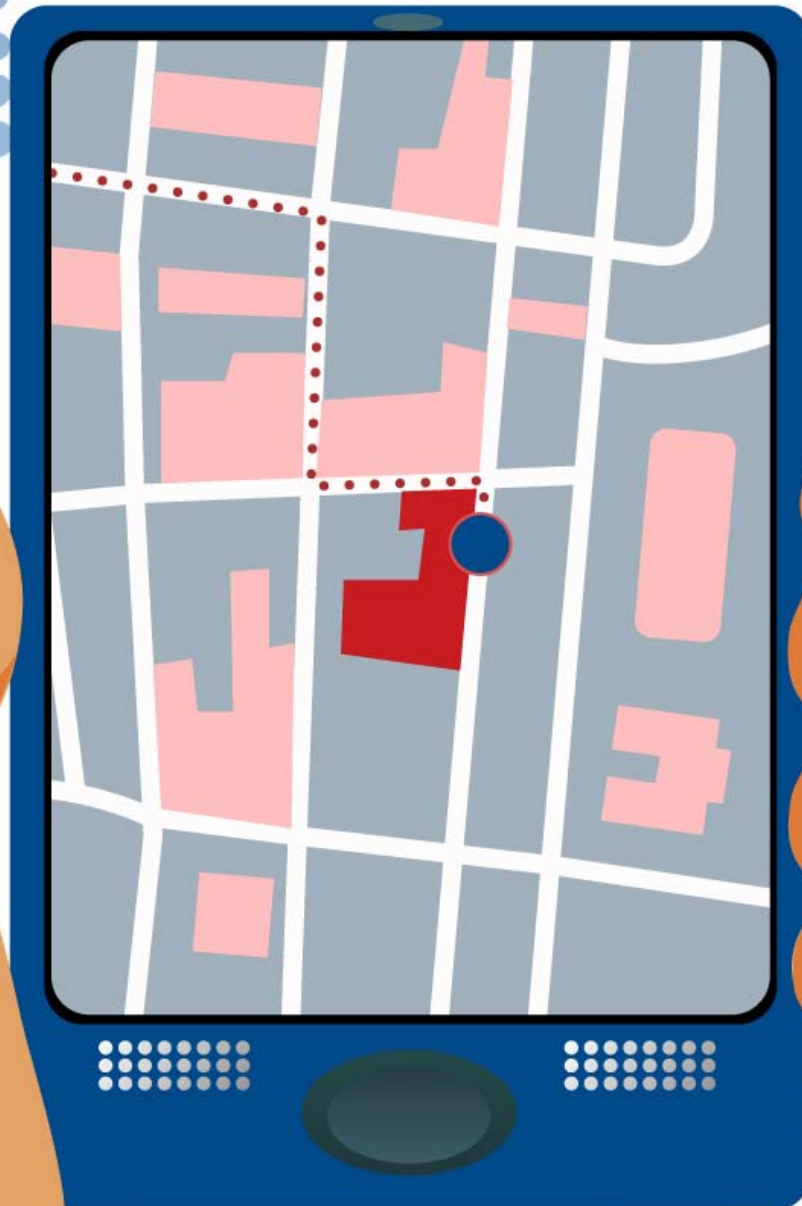


Intelligent Buildings Roadmap Executive Summary



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Intelligent Buildings Roadmap Executive Summary

An Intelligent Building uses technology and process to create a building that is safer, more comfortable and productive for its occupants, and more operationally efficient for its owners. Advanced technology—combined with improved processes for design, construction and operations—provide a superior indoor environment that improves occupant comfort and productivity while reducing energy consumption and operations staffing.

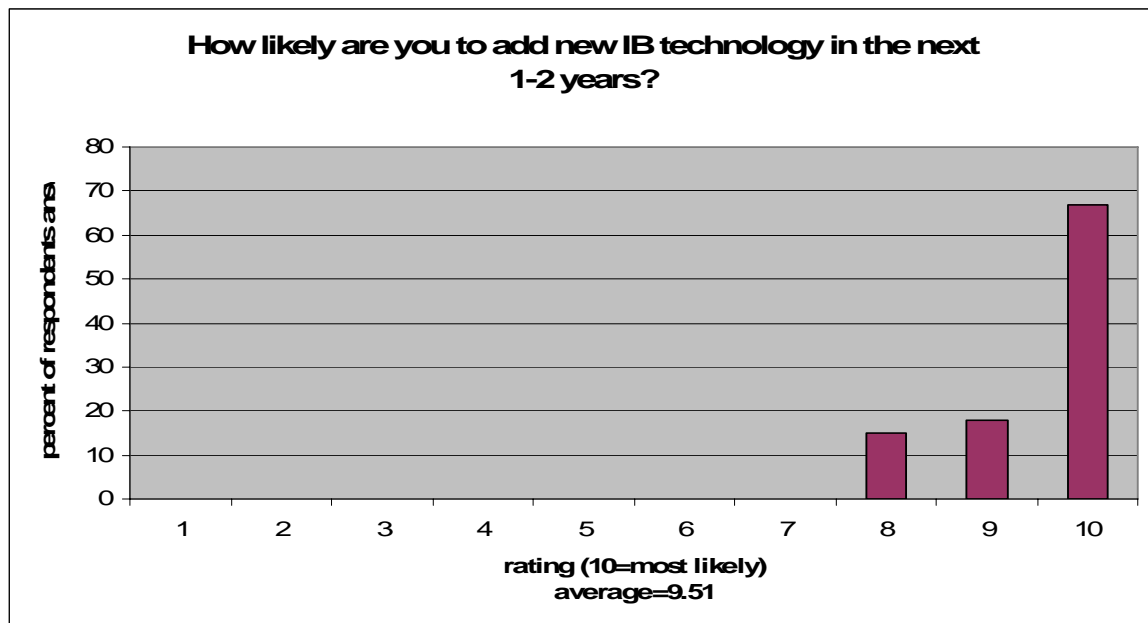
While this may seem too good to be true, these benefits can be achieved and delivered today. Remarkably though, there are relatively few Intelligent Building projects.

The purpose of this project was to study the market, focusing on building owners, operators and designers and discover their wants, needs, desires and frustrations with the concept of an Intelligent Building. The results are encouraging. We found that, by and large, buyers are excited about the concept of an Intelligent Building and are looking to implement elements of this in upcoming projects. The trend toward sustainable buildings and the need to be more operationally efficient are both big drivers. In our focus groups a resounding

majority of the participants indicated that they would be implementing Intelligent Building technologies on projects within the next 1-2 years. We also found that buyers see many impediments to implementing these projects including challenges with proving value and finding qualified consultants, contractors and suppliers. The owner research section of the Intelligent Buildings Roadmap provides details and observations on trends in selected vertical markets.

Coupled with the research is an extensive analysis. One observation is that as an industry, we are on the edge of a chasm, with a series of barriers that must be removed if we are to proceed. Interestingly, these barriers are not technology or product related, but rather have to do with tools, process and industry education. The barriers are described in detail, along with recommended tools and actions that we can take as individuals and an industry to remove them.

Finally, the report provides a series of Roadmaps. These are action plans that need to be followed by both individual firms and the industry as a whole. Specific roadmaps are defined for Owners, Designers, Contractors, Suppliers and the Industry. The recommendations in these plans include many suggestions that will



allow the industry to cross the Chasm.

Examples include:

- Training and certifications
- New project roles and processes
- Identification, branding and promotion
- Tools
- Awards
- Industry events

The recommended actions for industry calls for an expanded charter and mission for CABA to develop and deliver these programs.

Following this roadmap will take an investment of time, effort, and capital by all members of the industry. It will require vision, focus, compromise and cooperation, but at the end of the road lies opportunity. For building owners, the result is better projects with dramatically reduced total cost of ownership. For designers, contractors and suppliers, it means not only being able to deliver a better project, but dramatic growth in our industry as we move from being a hidden necessity to being a critical part of the management of assets.

1.1 Background: IBRM vs. TRM

In 2002 CABA, along with several industry and government organizations, issued the "[Technology Roadmap for Intelligent Buildings](#)" (see www.caba.org/trm). That project started in 1999 and focused primarily on technologies required for Intelligent Buildings. In 2005, CABA started recruiting sponsors to participate in the development of a new document to update and replace the 2002 Roadmap.

A group of industry leading suppliers and organizations stepped forward and in 2006 CABA selected Cookson Development as the project manager, and Building Intelligence Group as the researcher and author of this report. The Technology Roadmap report notes that most of the required technologies were generally

available but not widely adopted. Since most, but not all, of the barriers to adoption are marketing and business issues, rather than technology issues, this document focused on these barriers and provides actionable solutions for their elimination.

This Intelligent Buildings Roadmap combines primary and secondary market research to:

- Quantify the future potential for the Intelligent Building market.
- Identify specific barriers that are impeding market growth.
- Specific plans and actions for accelerating market acceptance of Intelligent Building technologies.

1.2 Project Sponsors

This project would not have been possible without financial support and intellectual input from its sponsors:

- CABA
- Cisco Systems
- Direct Energy
- ESC Automation/Delta Controls
- HID Corporation
- Honeywell International
- InfoComm International
- Johnson Controls
- Lawrence Berkeley National Laboratories
- Legrand North America / Watt Stopper
- Lutron Electronics
- Panduit Corporation
- Siemens Building Technologies
- TAC
- Trane
- Tridium

1.3 Project Team

CABA selected Cookson Development as the project manager and Building Intelligence Group as the researcher and author of this report.

1.3.1 CABA

CABA, the Continental Automated Buildings Association, is a leading source of information and research on both commercial and residential building automation. More information on CABA can be found at www.caba.org.

1.3.2 Building Intelligence Group

Building Intelligence Group LLC is a consulting firm focused on the Intelligent Building Industry. Our services include project planning, assessment and design, strategy and research. More information can be found at www.buildingintelligencegroup.com.

1.3.3 Cookson Development

Cookson Development is a management and design consultancy. More information can be found at www.powerofconnections.com.

1.4 Acknowledgements

The authors and sponsors would like to thank all of those who provided input to this project. Support was provided from numerous groups including: APPA, ASHE, RealComm, and *Engineered Systems* magazine. We also would like to acknowledge the many facility managers, developers, IT managers and consultants who participated in the focus groups and provided their thoughts and insight.

Ordering Information:

To obtain a copy of the Intelligent Buildings Roadmap please visit www.caba.org.