

CABA White Paper

Development and Training of a Knowledge-based Workforce for the Intelligent Building and Home Industries

1. Proposal

The CABA Board of Directors, at the April 26, 2016 CABA Board of Directors meeting, agreed to a proposal by Drs. Morad Atif and David Claridge, that suggest the development an educational white paper on academic training gaps for the connected home and intelligent building Industries. It is widely accepted that there is a significant shortage of trained professionals in the industry. Further existing educational programs in colleges and universities are relatively new and are seeking validation against the rapid trends of building and home automation.

The goal of the paper is to enhance alignment relevance of the educational programs on building and home automation -at Universities and Community Colleges – with industry needs. The specific objectives:

- Identify extent and nature of gaps between the building and home automation market and existing educational providers
- Develop recommendations to fill the above gaps and bridge partnerships and alignment between industry and educational providers,

The paper is will be developed by a Working Group (WG) from industry and academia, supported by the CABA Research Director. The WG reports directly to the Executive Committee of CABA for guidance and approval of final paper through the WG Chair and/or designated WG member.

2. Scope

- The paper applies to automation applications in homes and buildings
- The primary target audiences of this paper are:
 - ✓ educational providers: colleges and universities, and k-10-12 schools
 - ✓ certification and accreditations bodies for education
 - ✓ building automation industry and future employers
 - ✓ public agencies related to education and training programs

- The paper will not compare or rank existing education programs, and/or related practices, but may highlight examples of success stories in the body of the text or in the appendix

3. Recommended Outline

- **Building and Home Automation Market**

- ✓ Current State: Where the market is now from a demand on training point of view.
- ✓ Size of the market:
- ✓ Industry perspective on skilled workers- Breakdown by segments of industry: engineering, installers, etc.
- ✓ Future forecasted state of the industry

- **Overview on Existing Educational Programs**

- ✓ Data on capacity
- ✓ Characterization: Overview on breakdown by colleges, universities, etc.; and by targeted industry position (installer, etc.)
- ✓ Overview on educational content
- ✓ Certification and accreditation bodies

- **Gap Analysis**

- **Filling the gaps**

- ✓ **Content: What training is needed at academic institutions and how to best provide this training:** The Industry should work with academic institutions to help amend their current programs and develop new programs. The paper could provide a gap analysis and a grid for each segment of the industry, examining shortfalls in training and how to address these shortfalls. Three examples of industry segments are listed below, many more exist:
 - Project Management: certification (PMP etc.) with degree or two year college.
 - Control System Design and Programing: What courses are needed? What should be included in the courses?
 - Technicians: What type of technicians and what courses and material are needed for each type? Interest to Technical colleges.
- ✓ **How to fill capacity gaps in critical areas?**

- **Moving Forward**
 - ✓ **What is the role of academia and industry**
 - ✓ **What are suggested business models for partnerships and engagement between academia and industry?**

4. Next Steps and Timelines

- **Aug 30 2016:** Form a white paper working group and have the first working group meeting in August 2016.
- **Oct 30:** Complete 70% of the paper at the end of October.
- **Nov 17:** report progress to CABA Board of Directors
- **Dec 15:** complete first draft