

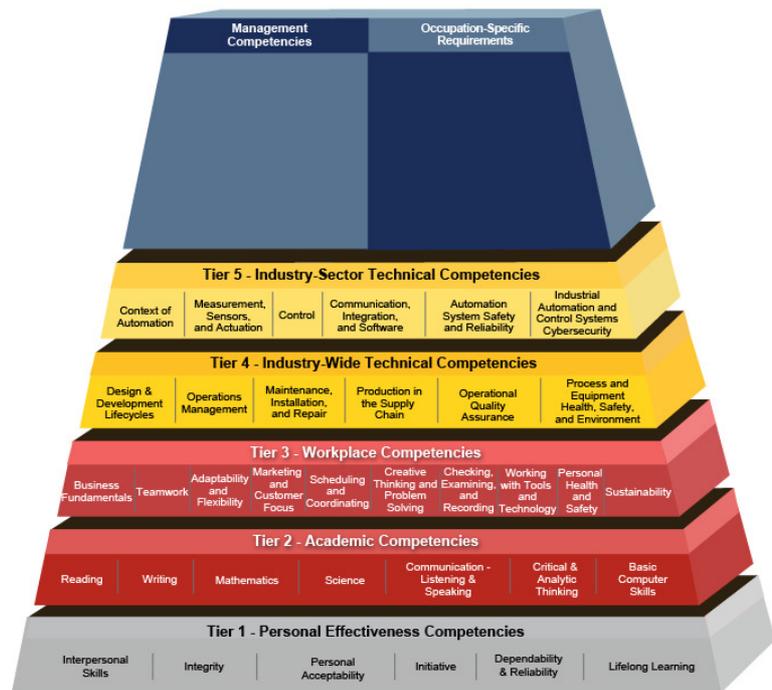
ATT: CEO / MD, Engineering Manager, Projects Department, Training / HR Department

RE: The value of **complementary training** in the field of **Control & Instrumentation (C&I)** with a specific **focus on Front End Loading (FEL)** i.e. feasibility, specification & design, **Contract & Project Management (PM)** along with **Quality Assurance / Control (QA/QC)** and soft skills improving the overall competency.

Architects Integrating Industry (Ai2SA), specializing in “**Optimally scoping and managing industrial systems projects**” has identified a need within specifically the “C&I discipline” for the “up skilling” of specifically control system “engineers” but also broader “non-technical” people working within the C&I domain. C&I apply to a host of different industries and sub sectors and unfortunately at present little focus seems to be placed within the curriculum of the respective tertiary institutions on all of the aforementioned aspects (FEL, PM, QC) and also not necessarily all people working in the domain has official qualifications related to it. **The Automation Federation has developed the Automation Competency Model** (depicted below) which provides an overview in terms of career planning as to all the different yet associated skills deemed needed is to ensure an engineer is a well-rounded individual. What is proposed within is in line with this model in relation to associated training deemed needed. In reality this also has a vital role to play in employment processes.

Hence in broad terms C&I has various niche aspects associated to it i.e. electronics, electrical engineering, hardware, software, etc. featuring across the respective phases of a project i.e. from the ideas stage to engineering to handover and often interacting or overlapping with other specialist areas such as Information Technology (IT), electrical engineering, etc. however very little emphasis seems placed on the value in proper systems design (i.e. using 1st principles) and respective “Stage-Gate ® Process or Front End Loading (FEL) Methodologies and even less focus appears placed on contract and project management and finally quality control related aspects. It is noted that some specialist training providers do exist locally and abroad were by some of the aforementioned can be studied as short courses however this requires proper planning with minimum number of delegates, etc. and may not be as regular as deemed needed nor subsidized.

This is why Ai2SA is hence of the opinion that **both** curriculum based and ad-hoc training is to be provided more frequently and that it should be possible to customize the courses for different clients based on their unique needs and best practices performing such works which complements the courses already deemed to exist. Ideally some of the courses should be adapted and hence offered more frequently in order to increase overall level of competency within the C&I domain increasing returns.



From a financial benefits point of view, we have written value propositions which elaborate on why clients should considering using services such as FEL, PM/QC, etc. and these quantify the value of respective services and hence this value proposition proposes for client’s to become competent in those areas to ensure client is able to leverage the implied savings based on experience **to be +/- 3 to 5% on top of that of the respective savings realised applying services as client is performing the implementation in house.** Some of the engineers at Ai2SA is in process of registering as trainers for some of the 3rd party institutes to be able to provide a range of technical and non-technical training. Ai2SA is also playing an important role in entrenching these non-technical aspects within Society for Automation, Instrumentation, Measurement & Control (SAIMC) nationally were it is hoped that these best practices will be adopted throughout industry driving costs down and profits up without compromising safety. **Petrus Klopper**, Managing Director