ASHRAE Ottawa Valley Chapter
Chapter Meeting #4 – 19 January 2016

Meeting Date:	19 January, 2016
Location:	Restaurant International, Algonquin College
Attendance:	Total: 57
	Members: 47 Guests: 8 Students: 2

Theme:	YEA
Tour:	None
Tech Session:	None
Table Top:	TRANE Controls
	KMC Controls
	Johnson Controls
Program:	The Internet of Things (IOT)
Speakers:	André Beauchamp, Sales Development Manager, Intel Canada
Prepared by:	Daniel Redmond

Social (17:30 – 18:40)

Business Session (18:40 –18:50)
- President Georges Maamari introduced the Board of Governors and the Executive
- Daniel Redmond introduced the guests for the evening
- President Georges Maamari announced new members
- President Georges Maamari announced the two upcoming seminars
  - o MCA – Tuesday Feb 9th – Fire damper installation and kitchen ventilation (NFPA 96). Details are posted on the MCA website and there will be a link in the January communiqué.
  - o ASHRAE seminar, Judy Jeske, reviewing new vs old NBC and OBC.
- Joe Della Valle presented a recap of YEA and the events that have happened this year:
  - o Pub event in the Market with the Adam Moons band
  - o Tailgaters pool event
- Joe Della Valle indicated that new YEA events are in the works and information will be posted soon.
- The YEA leadership conference is approaching and interested applicants are encouraged to contact Joe for more information. There is also Leadership U in which YEA members can shadow Regional officers at the upcoming summer meeting.
- President Georges Maamari announced the upcoming curling bonspiel. The event normally occurs on a Friday, however this year the event will be held on Thursday March 10th starting at 1:00 pm. There will be a link posted on the OVC website. Details to follow in the next communiqué.
- President Georges Maamari identified that the Research Promotion Committee is selling raffle tickets for the upcoming Toronto/Ottawa NHL game. Raffle will be held later this evening.

- President Georges Maamari introduced the table tops
    o TRANE Controls
    o Johnson Controls
    o KMC Controls

Dinner (18:50 – 20:15)
- Don Weekes discussed the upcoming winter meeting to be helf in Orlando this January
    o Discussion included technical committees and how ASHRAE members can become part of a committee at the society level. Comittees are listed on the society website and those interested should connect with Georges or Don.
- Four tickets were raffled off for the upcoming hockey game between the Ottawa Senators and the Calgary Flames. The tickets were donated by Engineered Air and raised $660 for ASHRAE RP won by Pat Albert of Lar-Mex.

Evening Program (20:20 – 21:25)
- President Georges Maamari introduced the program speaker, Mr. André Beauchamp:
- André Beauchamp provided the following overview of IOT:

1. The Internet of Things – the next evolution of computing
    a. The iPhone has only been around since…2007!
2. Intelligence is everywhere
    a. Cost of sensors has dropped 2X in the last ten years
    b. Cost of bandwidth has dropped 40X in the last ten years
    c. Cost of processing has dropped 60X in the last ten years
3. Internet of Things focused on the idea that the data is there – how do we get out what we want?
4. 50 Billion devices in the world (estimate), 44 zettabytes
    a. Each app 20 transactions per day, average of 26 apps per smart phone, 2 billion smart phones in the world today
5. Different market segments
    a. Retail
    b. Transportation
    c. Manufacturing industrial and energy
    d. Segments and broad market
    e. Smart homes and buildings
6. IOT strategies – things through cloud
    a. Connect the unconnected: add connectivity and compute, secure and manage
        i. Smart connected things – integrate compute and connectivity, improce security and control E2E
            1. Software defined autonomous world: real time networks with flexible, self-learning systems
    b. Our approach = vertical strategies + horizontal platform and products + strong ecosystem
7. IOT strategy evolution
    a. 0 Unconnected – legacy embedded
    b. 1 Connect the unconnected

      c. 2 Intelligent interconnected things

      d. 3Software defined autonomous world

      e. Currently we are approximately at 1.4

8. Enterprise IOT maturity phases
    a. Increasing value over time
    b. Security needs to come into play early
    c. Connect – Secure and Manage – Analyze and expose – predict – optimize
    d. Move from barriers of IOT deployment to benefits of IOT deployment

9. Intel's approach to accelerate the IOT market
    a. Need to have a solution that is being copied so that you can reduce time to market
    b. Trusted, actionable – data from the edge to the cloud
    c. Secure and managed devices, gateways and data
    d. Standards based
    e. Consistent developer experience

10. Standards and consortia are important to enable growth
    a. Ecosystems and standards are key to success

11. Intel IOT gateway
    a. Gateway definition – a gateway unit is an industrial pc or an edge appliance that sits between a producer and is performing a data acquisition function and an analytic function and is sending data and is doing so securely

12. Grove IOT commercial developer kit
    a. How do I get started if I want to get into IOT
    b. Allows developers to easily evaluate a complete solution right out of the bod
        i. Plug n play in 10 minutes of less
        ii. Multiple vertical use cases
        iii. End to end code samples
        iv. Easily port to production hardware with minimal software changes

13. $30 Arduino 101 board lets you make wearable and robots at home
    a. Intent is that the more of these that are available and in use then the further the development of the overall market will evolve
    b. MakerFaire

14. Case Studies
    a. The building automation and control market is expected to grow to $55 billion and increase at compound annual growth rate of over 9percent through 2020
    b. In 2012, air pollution caused an estimated 7 million deaths globally

15. HVAC monitoring and Control

16. VNomics – transportation industry
    a. Automation – driver can concentrate on driving, not on paperwork
    b. Driver training is embedded in tablet
        i. Can advise gear selection, etc
            1. Major fuel savings (50 billion gallons annually)

17. GrowSafe Feed intake and behavior monitoring

18. In the development and production of smart and connected things, reference architecture becomes very important
    a. If it is not replicable and scalable it will not take off

19. Intel developer forum: www.intel.com/idf

20. Internet of things: www.intel.com/iot
21. Industrial internet consortium: www.iiconsortium.org
22. Ioen interconnect: www.openinterconnect.org
23. ISA Partner Catalog: www.intel.com/iotsolutionsalliance
24. IoT Developer Zone: software.intel.com/iot
25. Intel IoT Platform Marketplace: www.inteliotmarketplace.com

Andre Beauchamp: andre.l.beauchamp@intel.com

- President Georges Maamari then thanked the speaker and reminded all attendees of the survey
- Next meeting February

Meeting adjourned 21:25