WIRELESS TECHNOLOGY ASSOCIATION

Updated April 21, 2016.

Return to WTA **Home Page**

Connected Wearable Computing
A Technology Workshop

CONFIRMED PANELISTS AND PRESENTERS: Altair Semiconductor, AT&T, Ericsson, Gemalto, Georgia Tech Wearable Computing Center, Intel, Qualcomm, Samsung, Sequans Communications, and WNC.

April 27, 2016

AT&T
Vail Auditorium
675 Peachtree Street
Atlanta, GA 30308

Hosted by AT&T

Chair: Peter Rysavy, Rysavy Research

CONTENTS

BACKGROUND

The industry is on the verge of having chips and network capability that will allow wearable computers to be always connected to cellular networks, with long battery life, vastly increasing the number of use cases and applications for wearable computers. These developments represent tremendous new opportunities within multiple industries.

In the multi-decade march of computing that began with mainframes, evolved to desktops, and is now at smartphones, wearable computers (wearables) represent the next frontier. How wearables communicate will determine their utility and range of applications. The goal of this workshop is to explore at a deep technical level what it will take to potentially connect billions of new devices.

Specific topics under consideration include:

- Connected wearable use cases, both consumer and industrial.
- Challenges of cellular-connected wearables.
- Technology advances for connected wearables, including display, battery, sensor, processor, OS, UI, and applications.
- Recommendations on simplifying the certification of connected wearables.
- Integrating connected wearables to other devices.

The Wireless Technology Association is pleased to present a technology workshop that will showcase the engineers, technology experts, service providers, and thought leaders

at the epicenter of these issues.

WTA workshops emphasize technical depth combined with market and business perspective, and keep commercial content to a minimum. The format consists of presentations on key topics followed by Q&A discussion and panel discussions.

AGENDA

Workshop. Wednesday, April 27, 2016
8:00 a.m. – 4:00 p.m.

Agenda and schedule subject to change.

8:00-8:30 Registration and Breakfast.

8:30-8:45 Peter Rysavy, Executive Director, Wireless Technology Association. WTA Update.

8:45 - 9:30. David Garver, Area Vice President, Business Development, Internet of Things, AT&T. Host Presentation.

9:30-10:15 Pankaj Kedia, Senior Director Product Management, Qualcomm. Wearables Opportunity and Connected Use Cases. Market trends, use cases including connected scenarios, opportunities and Challenges, how we work together.

10:15 - 10:30. Break.

10:30-11:15 Eran Eshed, VP Worldwide Sales and Marketing, Altair Semiconductor. The Evolution from Cat-1 Add-on Modems, to a Complete Ultra-Low power IoT Platform Featuring Positioning, Sensing and Next-Generation Cat-M Connectivity.

11:15-12:00. Maribeth Gandy, Ph. D., Principal Research Scientist and Director, Wearable Computing Center, Institute of People and Technology, Georgia Tech. The Future of Wearable Computing. The wearable computing research world has been exploring a much wider range of smart clothing, implantables, and unobtrusive multi-modal display "accessories" that will give users a much greater choice in terms of modality, body placement, conspicuousness, attentional demand, cognitive/sensory/physical requirements etc. In order for the augmentative wearable systems to become a reality we need to invent a new class of "instinctual" wearable interfaces that accommodate use in a variety of physical environments, social settings, and for a range of primary tasks. This talk will explore the technological, user experience, and societal challenges that must be overcome to make this next generation of computing possible. We will discuss the untapped potential of wearables, but also highlighting the transdisciplinary work (and thus business opportunities) that will be required over the next few years.

12:00 - 1:00. Lunch provided.

1:00-2:45. Dr. Anson Jan, Vice President, Satellite Communication and Antenna Technology, WNC. Antennas for Wearable Devices. Wearable devices, like smart watches, usually need multiple antennas for 2G/3G, Wi-Fi, and/or GPS for communication and positioning purposes. However, the size of these devices is small, and hence the space for antennas is limited. Thus, it is challenging to design multiple antennas into such limited space and achieve the RF performance desired. To utilize the space more efficiently, WNC proposes the solution of placing the antennas on the cover of a device. This solution increases the distance between the antennas and the metal components inside the device and thus increases the antenna efficiency. LDS technology is an effective solution for patterning and plating antenna on the cover of a device. This process is composed of injection molding, laser activation, and metallization. Extra painting could be applied to hide the antenna, especially if the antenna is placed on the exterior surface of the cover touchable by hand, to give better protection and look. Two

examples of smart watch antenna design, and the respective test results, are provided to show the effects.

1:45-2:15. Hani Beshara, Director, Technical Solutions, Engagement Practices - Mobile Broadband, Ericsson. Network Support and Deployment for LTE CAT-1, Cat-M, Power Saving Mode, NB-IoT, and View on 5G. The journey to realize the overarching goal to benefit the society from the so called Internet of Things is well under way, with an abundance of use cases that impact various segments of life, such as transportation, education, healthcare, environment, energy. It is estimated that the world will have 26B connected devices by 2020, of which 17B will be machine type devices. To this end, the ideas for what "things" to connect and for what purpose, have one thing in common, that is, the need for connectivity anywhere and anytime. In this presentation, an overview of IoT connectivity via LTE and requirements of LTE-based-IoT devices will be discussed, specifically Cat0, Cat 1, Cat M and NB-IoT for direct IoT connectivity. Capillary networks in LTE will be discussed as well, where the capillary gateway will support non-3GPP connected sensors and aggregate their traffic and control, connecting further to the cloud via LTE links. Details on LTE-network features to support IoT devices and preparing the LTE network for deployment and support of IOT will be presented. The view on IoT requirements and features in 5G will conclude the presentation.

2:15-2:45. Networking Break.

2:45-4:00. Panel Discussion. What are the Challenges and Opportunities for Connected Wearables and What Must Industry Do to Realize the Potential of this Market?

Panelists:

- Cameron Coursey, VP Product Development, AT&T.
- Benoit Jouffrey, VP On-Demand Connectivity, Gemalto.
- Richard Kerslake, Senior Director of Strategy and Products, New Devices Group, Intel.
- Shoneel Kolhatkar, Sr. Director, Mobile Product Marketing, Samsung.
- Craig Miller, VP Worldwide Marketing, Sequans Communications.

Moderator: Peter Rysavy, Rysavy Research.

Format: Five-minute introductory remarks by each panelist, followed by discussion. Initial questions from moderator, subsequent questions from the audience.

The panel discussion will also summarize the conclusions of the workshop.

WORKSHOP LOCATION

The workshop will be at:

AT&T
Vail Auditorium
675 Peachtree Street
Atlanta, GA 30308

HOTEL AND TRAVEL INFORMATION

We do not have a room block, but the following hotels are close to the workshop location:

Crowne Plaza Atlanta - Midtown
590 West Peachtree Street Northwest
Atlanta, GA 30308
(404) 877-9000

http://www.ihg.com/crowneplaza/hotels/us/en/atlanta/atlpw/hoteldetail?cm_mmc=Local_LCLZ-_-cp-_-USEN-_-atlpw

The Georgian Terrace Hotel
659 Peachtree Street Northeast
Atlanta, GA 30308
(404) 897-1991
http://www.thegeorgianterrace.com/

Hampton Inn Atlanta-Georgia Tech-Downtown
244 North Avenue Northwest
Atlanta, GA 30313
(404) 881-0881
http://hamptoninn3.hilton.com/en/hotels/georgia/hampton-inn-atlanta-georgia-tech-downtown-ATLGTHX/index.html

Renaissance (Marriott) Atlanta Midtown Hotel
866 West Peachtree Street Northwest
Atlanta, GA 30308
(678) 412-2400
http://www.marriott.com/hotels/travel/atlbd-renaissance-atlanta-midtown-hotel/

Hyatt Atlanta Midtown
125 10th Street Northeast
Atlanta, GA 30309
(404) 443-1234
http://atlantamidtown.hyatt.com/en/hotel/home.html?src=agn_mls_hyt_lclb_gplaces_atlhm

Hilton Garden Inn Atlanta Midtown
97 10th Street Northwest
Atlanta, GA 30309
(404) 524-4006
http://hiltongardeninn3.hilton.com/en/hotels/georgia/hilton-garden-inn-atlanta-midtown-ATLAMGI/index.html

REGISTRATION

The registration deadline is end of day, April 25, 2016.

Registration: by Eventbrite, http://connectedwearables.eventbrite.com/

Registration deadline: end of day, April 25, 2016. No registrations accepted on day of event.

Presenters and panelists: free. We will automatically register you.

WTA members: free. If you are a WTA member and don't have the discount code, please contact me. The following organizations are WTA members and people from these organizations do not have to pay the workshop fee to attend: AT&T, Ericsson, Georgetown University, Growth Impact Solutions, Instep Group, Intel, MCCI, Mobile Computing Promotion Consortium (MCPC), NetMotion Wireless, Qualcomm, Rysavy Research, and Sierra Wireless.

Press and government agencies (email has to be of press or government agency): free.

Non-members: $295 for registration through April 13, 2016. $495 April 14 to 25, 2016.

Why Do We Charge? Our workshops are not sponsored. Instead our work is sustained by our members and workshop fees. Pulling together high-quality content from global, leading experts involves an extraordinary effort.

INFORMATION FOR PRESENTERS AND PANELISTS

The following information is for people presenting at the WTA workshop:

- Presentations: 40 minutes including Q&A discussion for main presentations.
- Panelist introductory remarks: 5 minutes, no slides.
- Presenters must provide their presentations (PDF or PPT) at least one week prior to the workshop to allow for copying to the members area of the WTA Web site, as well as to allow detailed questions for discussion.
- Emphasis should be on industry and technology at large, versus selling your product (limit of 3 slides). Consider items such as compatibility, technical alternatives, standardization, deployment considerations, interoperability, certification and adoption.
- Generally, a dynamic and attentive audience of key industry stakeholders attend each workshop, representing a broad spectrum of the mobile computing industry, including operators, infrastructure vendors, device vendors, middleware providers, policy makers, and application developers.
- We will provide a video projector and computer for presenting. Presenters should use their own presentation templates.
- Because WTA workshops are considered public meetings, please do not include any confidential or proprietary information. Please do not mark your presentations with any terminology indicating confidential or proprietary information.

WTA home Page