At InterDigital, we take tremendous pride in being one of the first movers in the industry, and leading in research areas that will become pervasive technologies used by everyone in a number of years. Most of our research is made up of multiple contributions to the industry and standards that occur with less fanfare, each piece diligently improving some aspect of mobile or solving some problem, with the true value in the accumulation of these benefits. But every now and again, we have the opportunity to demonstrate something truly groundbreaking.

InterDigital has a long track record of firsts – the first digital mobile phone call, the first streaming of broadband video over wireless – but as the industry has matured and solutions have become more complex, being truly first to present something has become increasingly challenging. This month, we were able to announce an industry first related to 5G, something that will pave the way for new, advanced solutions.

InterDigital Europe, our UK presence, in conjunction with our research partners Bristol is Open and CVTC Ltd., this month completed the world's first trial of mobile edge computing (MEC) based on new IP networking technology expected to form part of the 5G network architecture, a major advancement. The magnitude of this achievement is amplified by the following considerations:

- In research circles, there's typically a distinction made between "trials," which are usually in controlled environments, and "consumer trials," which are done using real people in a real-world context (and are therefore much more challenging). Our trial of MEC over 5G architecture was both the first trial and the first consumer trial.

- MEC is an extremely important future technology, and the subject of research by all major players. Despite this, our trial of MEC, in addition to being the first over 5G-ready architecture, was, to our knowledge, only the third overall, with both other demos being executed over LTE networks and in controlled conditions.

The industry press was duly excited by our announcement; you can find links to some of the articles in the featured section below, but overall there were more than 20 media mentions of our world's first. One that I'd like to share is an article written just before the successful trial, when we invited one of the leading industry reporters, Nick Wood of *Total Telecom*, to visit the testbed and try the solution. Most companies are very careful to only show the media polished, finished products and research, but we didn't hesitate to invite him to see a work in progress – part of the transparency that makes us such strong global standards participants and research contributors.

Our announcement in August was the latest in a string of world's firsts related to 5G for the company. In 2015 at Mobile World Congress, we delivered the world's first demo of a WiGig-based millimeter wave mesh backhaul solution, as well as the first public demo of a oneM2M-compliant IoT software development platform. Later that year, we delivered the world's first IP-over-ICN-over-SDN demo – a key precursor to this month's announcement that layers information-centric networking over a software-defined network. And, at Mobile World Congress 2016, we demonstrated a working 5G access platform, one of the first of its kind, followed later in the year by a demonstration, at the Fraunhofer Heinrich Hertz Institute in Berlin, of integrated fronthaul-backhaul over millimeter wave – again, expected to be a key component of 5G networks.

I hope you'll join me in celebrating these remarkable achievements, which argue strongly that InterDigital will be a force in 5G as we were in previous generations of mobile. Thanks for your continued interest in our company, and feel free to reach out to our Investor Relations team if you have any questions or would like additional information.

Best regards,

William J. Merritt
President and CEO
InterDigital, Inc.

KEY NEWS

InterDigital Announces First Successful MEC Network Architecture Trial

In August, InterDigital revealed the success of what is said to be the world's first Mobile Edge Computing (MEC) trial based on new IP networking technology expected to form part of the 5G network architecture. The three-week, real-world joint trial with Bristol Is Open and CTVC Ltd. showcases InterDigital's Flexible-IP services (FLIPS) solution and demonstrates significant performance improvements that are crucial for the success of MEC services. The next generation 5G Network Architecture trial exhibits millisecond latency reductions and video distribution six times more effecient than standard IP technology. Wireless Week, Light Reading, RCR Wireless News, ComputerWeekly, SDxCentral

IoT: Road to Energy Savings, ROI Goes Through Telecom Operators

A recent white paper co-sponsored by InterDigital highlights the potential for enormous energy reduction and cost savings accessible through IoT technology, given the proper investment and interconnectivity from operators. The research from Telecoms.com Intelligence, "Smart Cities: What are the opportunities for telcos," underscores the role of telco infrastructure in providing the connectivity necessary to bring about energy reduction and also stresses the opportunity for IoT sensors to become part of building standards. In addition, the paper points to a need for a joint approach to tackle adoption challenges and see the overall potential of smart cities and smart buildings. View Release

European Industrial and Academic Partners Join to Develop a 5G Mobile Transport Platform for Verticals

The 5G-TRANSFORMER project, a consortium of European industrial and academic partners, launched plans targeting the development of a Software Defined Networking/Network Function Virtualization-based 5G Mobile Transport and Computing Platform. The consortium includes leading international vendors, operators, vertical industries, SMEs, and research institutions and universities. The 30-month project is aimed at supporting vertical industries (specifically geared towards low latency), through flexible slicing and federation of resources across multiple domains. View Release

Hillcrest Labs Launches High Performance AHRS/IMU Module, Targeted at Advanced Consumer and IoT Applications

In late June, Hillcrest Labs announced the launch of their new cost effective and low power AHRS/IMU module, the FSM300. This product joins Hillcrest's portfolio of high performance, high quality solutions and delivers industrial-grade sensor fusion accuracy with up to 4X better precision than competitor solutions at an affordable price for consumers. By combining MotionEngine™, Hillcrest's high-performance, proprietary sensor processing software, with a 3-axis accelerometer, 3-axis gyroscope, and 3-axis magnetometer, along with a low-power 32-bit ARM Cortex M0+ MCU, the FSM300 offers a dramatic improvement to human and machine motion sensing in a diverse set of consumer and IoT applications. View Release

InterDigital Joins 5TONIC Lab

In the final week of July, InterDigital announced its membership in 5TONIC Lab, the first 5G open research and innovation laboratory in Spain, founded by Telefonica and IMDEA Networks. 5TONIC exists as an open ecosystem for 5G network research based in Madrid, and includes other industry powerhouses such as Intel, Ericsson Spain, and CommScope. This 5G initiative aims to create a collaborative space where industry and academic experts alike can work together to boost technology development and drive innovation in business. As 5G development is a large focus of InterDigital's, it will be right at home working alongside other key tech frontrunners to uncover 5G's potential. View Release

IMPROVING AUTONOMOUS VEHICLE SAFETY - A HUMAN SENSORY APPROACH

When it comes to autonomous vehicle development, safety is naturally the number one priority; the human sensory approach using multiple input sensory vectors to power connected cars is a model that may be successful as a way to mimic human intuition. In this *AGL Media Group* digital feature, Samian Kaur explores the pitfalls of using only sight-based sensory technology in self-driving vehicles, and makes the case for collaborative sensor fusion that combines sight, sound, and tactile haptics, as a safer option in autonomous vehicle technology. **Read More**

SIX TOP CONCERNS OF 5G NETWORK OPERATORS

Published in early May on *WirelessWeek*, Chris Cave penned a blog regarding the needs of 5G upon review of the recent survey and report conducted by TIA in conjunction with Tolaga Research and sponsored by InterDigital. This survey outlines a number of key network operator concerns and how they plan to address various aspects of 5G. In this article, six issues are highlighted that will influence a considerable amount of the future of 5G. These areas include trials, testing, and deployment, global rollouts, spectrum issues, network densification and small cells, use cases, and network slicing and virtualization. **Read More**

5G: STOP, COLLABORATE, & TRANSITION

It won't be long before we begin seeing the first real world testing and deployment of 5G networks. While these early individual deployments are planned to be relatively narrow in scope, the full rollout of worldwide 5G will be a wide ranging, transformative global effort requiring significant collaboration between the engineering community, standards bodies, and wireless operators. This InterDigital eBook addresses many questions that have come up about this complexity in recent months and discusses the collaborations and integrations that will need to happen in order for this next transition to take place as smoothly as possible. **Read More**

REAL WORLD CHALLENGES BETWEEN US AND THE INTERNET OF THINGS

Although there is much talk in the tech industry about the technical considerations surrounding complete integration of the Internet of Things, there is arguably more to discuss in terms of the challenges the real world poses to the deployment of IoT. InterDigital's Alan Carlton turns to a more realistic approach to the topic of IoT in this blog post featured on *ComputerWorld*. While healthcare, autonomous vehicles, and smart cities are all touted as rapidly upcoming developments in the IoT space, there are additional larger-scale adoption issues to consider. **Read More**

HTTP AND DNS IN A 5G WORLD

Hypertext Transmission Protocol (HTTP) and Domain Name System (DNS) have virtually become household names in the internet space, but as we turn to face the future of 5G, large changes are coming for standards on the World Wide Web. Alan Carlton examines some technical and high-level reasons for the upcoming changes to HTTP and DNS, including NFV and MEC trends and IoT integration, as well as a potential timeline for the rollout of these new protocol enhancements in our devices on this *ComputerWorld* blog. **Read More**