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Editor-in-Chief
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A Piece of the 5G Puzzle?

Editor's note: Our continued quest to find 5G's weakest link has brought us to backhaul. This month Henrik Lundqvist of Huawei, Sweden has kindly agreed to lead us through the pros and cons of backhaul for 5G.

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Comments are welcome!
Alan Gatherer (alan.gatherer@huawei.com), Editor-in-Chief

Can we see 5G in the light of social justice? Is there evidence of a digital divide between rich and poor that can be traced back specifically to the wireless cellular infrastructure?

In this issue of **IEEE ComSoc Technology News (CTN),** Editor-in-Chief Alan Gatherer takes us down a mind opening path of 5G, and how to steer this fast-growing new technology towards the most social good.

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Lost in Space

How Secure Is The Future For Mobile Positioning?

Editor's Note:

5G And The Next Billion Mobile Users:

A View From Africa

Editor's Note:

Continuing our occasional series on the role of 5G in the connection of the next billion wireless users, we have invited Fisseha Mekuria from the CSIR Meraka Institute in South Africa to explain some of the issues surrounding next-generation wireless in his part of the world. Fisseha worked for Ericsson in Europe and has collaborated with both

India has an emerging wireless network community with tremendous potential impact on 5G use cases. Connectivity and sharing among friends and families is everything. Cost is very sensitive. How should India's unique needs influence the 5G standardization efforts in a way that serves the needs of evolving markets and the next billion mobile users?

In this issue of the **IEEE ComSoc Technology News,** *Editor-in-Chief* Alan Gatherer continues to lead the theme of 5G and social justice by inviting a special guest Chaitali Sengupta, VP Product Development and Engineering at Reliance Jio Infocomm Ltd., for a view from India on how emerging wireless communities may drive 5G development.

Is Anyone Out There?

5G, Rural Coverage And The Next 1 Billion

Editor's Note: Continuing the theme of the next billion users and how 5G might affect them, this month we have an article coming out of Sweden by Mats Eriksson and Jaap van de Beek that considers the impact of 5G on rural users. Even as Google touts "Project Loon," stating "two-thirds of the world's population does not yet have Internet access," 5G seems to be solidly focused on the densest of urban environments. In these authors' words, "5G is becoming an urban system." Mats and Jaap have worked with both Ericsson and Huawei on wireless system development; Jaap is now a professor in signal processing at Luleå University of Technology, and for a while now they have been asking the question, "what about rural access?" In this article, they provide some thoughtful answers. Hope you enjoy it. As always, comments are welcome.

WILL ANALOG BE THE DEATH OF MASSIVE MIMO?

THE DEATH OF 5G

(PART 2)

While we are on the topic of things that might kill 5G, Editor-in-Chief of **IEEE ComSoc Technology News** Alan Gatherer guides us to a closer look at the topic of analog front-end of massive MIMO. He recently drove down the soggy road to UT Dallas and brought back some interesting findings and a summary from our Guest Editors Jin Liu and Hlaing Minn, Professors from University of Texas at Dallas, who specialize in this area.

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Resurrection of 5G

In Defense of Massive MIMO

Editor's Note: After our doom-laden "death of 5G" series we did get some letters. In particular, the good people of the MAMMOET project in Europe managed to hit several points at once. So to start 2016 on an upbeat (and goodness knows it needs one), we have a positive look at massive MIMO covering both the throughput and the implementation for sub 6GHz. We hope this makes you feel just a little bit better about wireless in 2016. Comments (even doom-laden ones) continue to be welcome of course. - Alan Gatherer, *Editor-in-chief*

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CTN is supported by volunteer Editorial Board members, who are technical experts in diverse fields. They identify papers and articles and work with authors to create summaries, with links to full content in IEEE Xplore, in layman's language that is accessible to non-specialists, including students, news media reporters, industry and government executives. Summaries are further reviewed and edited by a technical editor. CTN Editor-in-Chief performs the final review prior to publication. Website: **http://www.comsoc.org/ctn**

IEEE CTN Top 20 Issues by Pageviews (1 March 2015 - 10 May 2016)

1. THE DEATH OF 5G PART 2: WILL ANALOG BE THE DEATH OF MASSIVE MIMO? (11,053)
2. WILL DENSIFICATION BE THE DEATH OF 5G? (8,736)
3. CTN LANDING PAGE (5,997)
4. RESURRECTION OF 5G: IN DEFENSE OF MASSIVE MIMO (5,110)
5. DEVICE-TO-DEVICE COMMUNICATION IN 5G CELLULAR NETWORKS: CHALLENGES, SOLUTIONS, AND FUTURE DIRECTIONS (4,514)
6. DEATH BY STARVATION?: BACKHAUL AND 5G (4,301)
7. 5G: DOWN THE RABBIT HOLE (3,560)
8. IS ANYONE OUT THERE? 5G, RURAL COVERAGE AND THE NEXT 1 BILLION (3,181)
9. LOST IN SPACE: HOW SECURE IS THE FUTURE OF MOBILE POSITIONING? (3,026)
10. IEEE COMSOC CTN SPECIAL ISSUE ON TEN TRENDS THAT TELL WHERE COMMUNICATION TECHNOLOGIES ARE HEADED IN 2015 (2,955)
11. CELLULAR ARCHITECTURE AND KEY TECHNOLOGIES FOR 5G WIRELESS COMMUNICATION NETWORKS (2,764)
12. 5G AND THE NEXT BILLION MOBILE USERS: A VIEW FROM INDIA (2,509)
13. 5G, SOCIAL JUSTICE AND THE ROLE OF THE IEEE COMSOC (2,374)
14. IEEE COMSOC CTN SPECIAL ISSUE ON TOWARDS THE OPEN BASESTATION (2,062)
15. IEEE COMSOC TECHNOLOGY NEWS SPECIAL ISSUE ON 5G (1,843)
16. 5G AND THE NEXT BILLION MOBILE USERS: A VIEW FROM AFRICA (1,786)
17. NEUTRAL HOSTING: A PIECE OF THE 5G PUZZLE? (1,450)
18. MOBILE WORLD CONGRESS 2015: INDUSTRY EXPERTS HIGHLIGHT KEY TRENDS FROM THE SHOW (820)
19. ARE WE READY FOR SDN? IMPLEMENTATION CHALLENGES FOR SOFTWARE-DEFINED NETWORKS (816)
20. THE ROLE OF SMALL CELLS, COORDINATED MULTIPOINT, AND MASSIVE MIMO IN 5G (814)