www.pipelinepub.com
Volume 21, Issue 4

Letter from the Editor - Feburary 2025

By: Scott St. John

The world grows more connected by the second. Seamless, through-the-air connectivity is now the norm. This is just as true for enterprises, with their expansive networks of industrial IOT devices, as it is for consumers, with wireless connectivity linking up everything from pacemakers to cars to hoovers and microwaves.

The selfie toaster, a WiFi-connected device that burns your face onto your breakfast, is one of the funnier examples (or ridiculous, depending on your perspective). There is, of course, the flip side, too. HP received significant blowback for remotely disabling printers when payments to their subscription ink service failed.

We're also at the stage where wireless connectivity can now outperform wireline connectivity in a lot of cases. So does this new normalcy and out-performance mean wires are redundant?

The answer is no. There are ongoing issues and obstacles associated with pervasive wireless connectivity. As we explored in previous issues, bandwidth-intensive adoption, which requires data transfer across huge spaces, requires more than wireless backhaul. Increasingly, a dual approach with advanced fiber optic infrastructure is favored.

However, pervasive mobile connectivity takes even more than wireless and wireline combined. It requires an ecosystem. One that includes connected devices as far as the moon, sophisticated technology like edge computing for low-latency processing, vast networks of data centers, robust network management tools for efficient operations, and a system of standards and certifications to make it all work.

This ecosystem is already creating fascinating use cases. Vehicle-to-everything communication allows cars to communicate with their surroundings. Edge devices at farmer's fields connect with

autonomous drones for optimized yield. And large-scale IoT deployment is making real-time climate and environmental tracking possible for proactive disaster management.

It's clear that mobile and wireless is anything but stationary. And the coordinated growth of this ecosystem poses challenges. It demands substantial investment, with the real possibility of stranded assets. Similarly, there is a risk that leaders miss important innovations by overfocusing on the potential of generative AI (powerful though it is). Now more than ever, collaboration and an integrated approach are called for. Which makes this issue of *Pipeline* so important.

In this issue of Pipeline, we explore the transformation of the mobile connectivity ecosystem. Mobile Ecosystem Forum discusses digital transformation within the whole mobile ecosystem. ST Engineering iDirect highlights the top satellite industry trends for 2025. QuadSAT showcases satellite's critical role in supporting mobile and wireless networks. SOLiD delves into O-RAN and its potential for enhancing sustainability. And in a concrete example, Rohde & Schwarz examines how V2X technology could complement automated driving. Meanwhile, Lifecycle Software predicts 2025 will be a breakout year for US MVNOs. Legrand addresses pervasive mobility's latency challenges by fusing telecommunications legacy systems with edge innovation. Wi-SUN Alliance emphasizes the importance of interoperability and certification in supporting large-scale wireless networks. Finally, in two features, Dr. Mark Cummings explores the concept of truly smart phones and discusses the intersection of networks and generative AI. Plus, we bring you the latest news and developments across telecommunications and technology.

We hope you enjoy this and every issue of *Pipeline.*

Scott St. John
Managing Editor
Pipeline

Follow on X | Follow on LinkedIn | Follow Pipeline