

Blue Danube Systems and Redline Communications Announce Collaboration to Introduce 3D Beamforming in Private LTE/5G Markets

- *Delivering agile beamforming solutions to the world's most challenging RF environments*
- *Combined product solution is being deployed at an existing industrial LTE site in Q4*

SANTA CLARA, CA, USA and TORONTO, ON, CANADA. – October 16, 2019 – [Blue Danube Systems](#), a provider of mobile wireless access solutions that significantly and cost effectively increase network capacity and [Redline Communications](#), a leading-edge provider of industrial wireless broadband network connectivity solutions for mission-critical applications, today announced a strategic collaboration to deploy 3D beamforming solutions in Private LTE/5G networks, meshing together each companies' platforms and technologies. The companies have also announced plans for further research and development to advance integrated solutions to transform experiences in industrial deployments.

Industrial companies often have local connectivity needs and operate in remote locations or temporary sites, such as mines, power plants, offshore oil rigs, container ports, factories and warehouses where connectivity for these environments can be challenging. While standalone wireless networks to serve devices and users within a localized area have significantly improved performance and reliability, the rapid growth of industrial automation – e.g. IOT devices and autonomous vehicles – brings new challenges and opportunities for these private networks. According to Harbor Research ⁽¹⁾, Private LTE for industrial and business markets will grow more than 3-fold between now and 2023, reaching nearly \$70 billion in estimated annual revenue.

Blue Danube's Coherent Massive MIMO solution has consistently exceeded commercial wireless network improvement objectives as well as demonstrated unprecedented beamforming flexibility with mobile operators worldwide. The commercial evaluation with Redline is expected to demonstrate that the combined solution of Redline's baseband product and Blue Danube's Massive MIMO radio can characterize and flexibly adapt to the unique radio characteristics and everchanging footprint of industrial locations and still meet the latency and throughput requirements of deployed applications.

“Our worldwide industrial clients are operating in the most mission-critical, demanding, dynamic environments,” said Stephen J. Sorocky, CEO of Redline Communications. “With this collaboration, Redline accelerates the promise of an automated industry by supporting a ‘plug-and-play’ private LTE/5G ecosystem. We are excited to partner with Blue Danube to explore this potential.”

“We are just at the very beginning of realizing what is possible with our dynamic 3D beamforming solution in industrial applications,” said Mark Pinto, CEO of Blue Danube Systems. “We view the combination of capabilities from Redline and Blue Danube as a powerful advancement beyond what is available today. The commercial evaluation will serve as a catalyst for Private Network

clients to further exploit the capabilities of industrial IOT applications. The proliferation of private LTE/5G networks due to the availability of the unlicensed CBRS spectrum is set to further accelerate the demand for agile networks.”

Blue Danube and Redline Communications are participating at Mobile World Congress in Los Angeles, California, October 22-24. Blue Danube can be found in South Hall, Booth 1051.

(1) Harbor Research. “The Private LTE Opportunity for Industrial and Commercial IoT,” <http://harborresearch.com/private-lte-opportunity/>

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About Blue Danube Systems

Blue Danube Systems designs next generation wireless solutions for mobile networks and other applications. Our Coherent Massive MIMO solution brings 5G beamforming to today’s networks dramatically increasing network capacity and end user experience. Together with cloud-based software suite utilizing machine learning techniques, our technology enables up to a 10X capacity increase in cellular networks with today’s smartphones. Blue Danube Systems is a privately held start-up backed by Sequoia Capital and Silver Lake along with other investors including AT&T. For more information, please visit www.bluedanube.com

About Redline Communications

Redline Communications (TSX:RDL) designs and manufactures powerful wide-area wireless networks for mission-critical applications in challenging locations. Redline networks are used by Oil & Gas companies onshore and offshore, Mining companies on surface and underground operations, by municipalities to remotely monitor infrastructure, and by specialized telecom service providers to deliver premium services. Hundreds of businesses worldwide rely on Redline to engineer, plan and deliver ruggedized, secure and reliable networks for their IoT, voice, data, and video communications needs. For more information visit www.rdlcom.com

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