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Fueling 5G business case success by overcoming macro challenges

Ahmad Sultan
Celenium Corporation, USA

5G technologies present the most remarkable evolution in wireless technology since the addition of data transmission. The promise of delivering extreme data rates, mission critical latency, location awareness, device density, and long battery life will spark innovation across industries and unforeseen future use cases. In industry 4.0, the overarching feature is offering user experiences by choosing the right connectivity technology for the application. The latest computing power chipsets will enhance radio interface and allow network layout optimization. The resulting digital fabric will overwhelmingly transform the economy and society. 5G surfaces numerous technical, business, and societal macro challenges; poor interdisciplinary collaboration, disengaged communities, limitations in system-focused research, and the lack of development platforms to accelerate innovation. Overcoming the fragmented 5G ecosystem is essential to move from hypothesis to observation-based research and accelerate succesful commercial deployments. This paper describes the efforts carried out at Hub88 to enable the 5G envisioned economic and social transformations. Established in Greater Chicago area, Hub88 is a not-for-profit providing vital links to bridge industry, education, local government, and the community to bypass a major hurdle in 5G successes. This paper discusses the infrastructure established in partnership with Nokia to offer a pre-5G and 5G-ready test bed to the ecosystem.The verticals and use cases include robotics, AR/VR, industrial IoT, drones, power and energy, connected car, and smart cities.