



NEWS RELEASE

Vodafone Turkey deploys Adtran optical cesium solution in national timing network

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News summary:

- Leading service provider required ultra-reliable synchronization solution able to provide sustained holdover when GNSS data is unavailable
- Adtran's Oscilloquartz ePRTC+™ technology brings long-term stability to Vodafone Turkey's nationwide synchronization network
- Industry-first solution greatly exceeds international standards for protecting critical timing services against possible GNSS unavailabilities

ISTANBUL--(BUSINESS WIRE)-- Adtran today announced that Vodafone Turkey has deployed its Oscilloquartz optical cesium atomic clock technology to bring new levels of resilient timing to its nationwide network. Adtran's first-to-market solution will deliver robust protection against disruptions to GNSS signals, enabling Turkey's leading service provider to maintain uninterrupted, reliable connectivity even while it readies 5G services. By combining its existing Adtran Oscilloquartz core grandmaster clock devices with the new optical cesium atomic clock technology, Vodafone Turkey has an ePRTC+™ solution that guarantees accurate network synchronization during any possible GNSS unavailability. Artitel also played a key role in the deployment, facilitating logistics and supply management.

Vodafone Turkey is using Adtran's optical cesium solution to bring new levels of resilient timing to its nationwide network (Photo: Business Wire)

"Our new solution injects outstanding reliability and precision into our national

synchronization network. It's a key step in our 5G strategy, enhancing service performance and equipping us to



address emerging timing challenges. Now we can guarantee a seamless user experience as we provide more customers with access to data-intensive applications and uninterrupted high-quality video streaming,” said Yago Lopez, network director at Vodafone Turkey. “Threats to GNSS are multiplying, so we need to harness technology that bolsters the resilience of our entire timing network. We’ve also seen the impact that devastating natural disasters can have on GNSS accuracy and availability. That’s why Adtran’s Oscilloquartz ePRTC+™ technology is so crucial. It safeguards synchronization input for our network and ensures it remains stable in the most challenging conditions.”

For enhanced redundancy, Vodafone Turkey is strategically deploying Adtran’s Oscilloquartz ePRTC+™ across five different sites. Central to the solution are the Oscilloquartz **OSA 3350 ePRC+™**, which utilizes optical pumping technology to achieve high-performance frequency stability, and Vodafone Turkey’s existing core grandmaster clocks, the **OSA 5430** and **OSA 5440**. Along with the Oscilloquartz clock combiner, these components form the complete ePRTC+™ system. Capable of maintaining 100 nanoseconds holdover for at least 45 days, and typically up to 55 days, it surpasses current ITU-T G.811.1 standards. The solution provides Vodafone Turkey with optimal stability, outperforming the lifespan of other high-performance magnetic cesium clocks. It also features a modular design, which includes a wide range of synchronization output interfaces and supports secured management capabilities, including SNMP – essential for efficient network management and security.

“With its deployment of our ePRTC+™ system, Vodafone Turkey is introducing next-level timing resilience into its network. This helps ensure every customer has seamless and uninterrupted access to some of the fastest mobile services available,” commented Stuart Broome, GM of EMEA sales at Adtran. “Combining our grandmaster GNSS receivers with our ultra-accurate OSA 3350 ePRC+™ ensures protection for Vodafone Turkey’s timing and synchronization operations with the industry’s longest holdover. It will help Vodafone Turkey set new benchmarks in network reliability and service quality.”

About Adtran

ADTRAN Holdings, Inc. (NASDAQ: ADTN and FSE: QH9) is the parent company of Adtran, Inc., a leading global provider of open, disaggregated networking and communications solutions that enable voice, data, video and internet communications across any network infrastructure. From the cloud edge to the subscriber edge, Adtran empowers communications service providers around the world to manage and scale services that connect people, places and things. Adtran solutions are used by service providers, private enterprises, government organizations and millions of individual users worldwide. ADTRAN Holdings, Inc. is also the largest shareholder of Adtran Networks SE, formerly ADVA Optical Networking SE. Find more at [Adtran](#), [LinkedIn](#) and [X](#).

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