Warke Technologies and Research

contact@warkegroup.com
www.warkegroup.com
+91 9111600856

# PUBLIC ADVISORY

**Subject:** Advisory Regarding the Year 2038 IT Time Bomb.

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This advisory is issued to raise awareness about the **Year 2038 problem**, commonly referred to as the **2038 IT time bomb**—a well-documented technical limitation affecting legacy digital systems that rely on **32-bit time representation**.

On **19 January 2038**, such systems may experience time overflow, leading to incorrect date and time calculations. This can potentially result in failures across **authentication systems, transaction processing, logging mechanisms, scheduling services, billing platforms, and safety-critical controls**, especially where accurate time sequencing is essential.

While most modern consumer and cloud-based systems have transitioned to **64-bit architectures**, a significant concern remains for **long-running legacy and embedded systems**. In the Indian context, this includes sectors such as **banking backends, power and utility infrastructure, railways, telecom systems, industrial automation, healthcare equipment, and other mission-critical installations** designed to operate for decades.

At present, we observe **no publicly available, centralized policy or nationwide audit framework** specifically addressing the Year 2038 risk. This advisory is

therefore issued in the interest of **early awareness, responsible engineering, and planned modernization**, rather than panic or speculation.

We believe that **timely technical audits, lifecycle planning, and gradual system upgrades** can mitigate this risk effectively if addressed well in advance. History has shown that early action ensures quiet resolution, whereas delayed action often leads to costly disruptions.

This notice is intended to encourage **discussion, assessment, and preparedness** within the technology and infrastructure ecosystem.

Given India's rapid digital expansion and increasing dependence on interconnected systems, the Year 2038 risk should be viewed not merely as a future date-related anomaly, but as an issue of **technical debt management and long-term digital resilience**. Proactive identification of time-dependent components, especially within legacy and embedded environments, will help organizations avoid last-minute remediation, operational uncertainty, and avoidable service disruptions. Addressing this challenge early also strengthens trust, reliability, and continuity across critical digital and physical infrastructure.

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**Xth. Yash Warke**
*(Founder, CEO & Managing Director)*

**Mr. Yuvraj Warke**
*(Executive Director)*