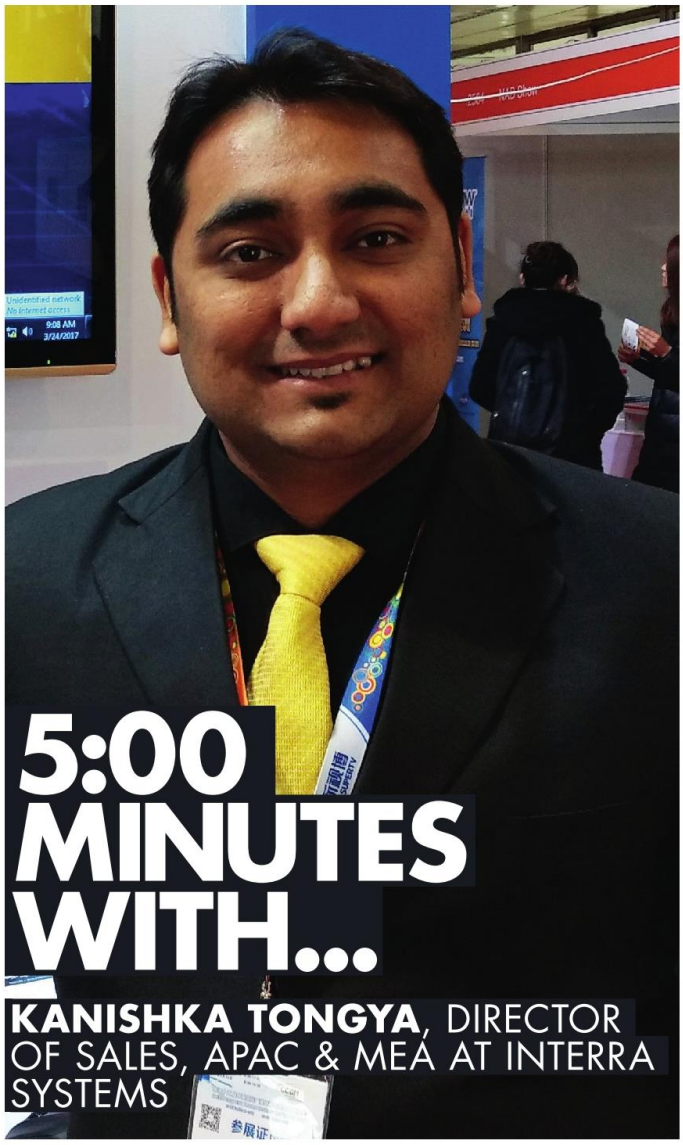


**Kanishka Tongya sets out three ways hybrid solutions are improving quality control for broadcast workflows.**

The way that broadcasters approach quality control operations is changing. While automated quality control (QC) has been the status quo over the last decade, manual quality control still needs to be practiced since several issues, like special effects and lip sync,cannot be adequately detected by automated QC solutions alone. In some cases, even if detection is supported, it is not fully accurate. Today's broadcasters are finding that, when combined, automation and manual QC provide a more comprehensive solution, ensuring that no issue in the video workflow goes unmissed.

This article discusses the three key advantages of using hybrid QC platforms, which allow broadcasters to perform auto and manual QC checks in parallel from a single platform. In addition, it examines several critical requirements to look for in a next-generation hybrid QC solution.

One of the problems that hybrid QC solutions resolve is false positives. When special effects are added to video, they can be detected by an automated, file-based QC solution as artefacts in the video frame. Manual intervention is needed to understand these anomalies and take appropriate corrective measures, if needed.

Hybrid QC solutions also allow broadcasters to identify false negatives, or errors that are ignored by auto QC systems. If an auto QC system is incapable of addressing critical issues in the video or audio stream, such as lip sync, quality of experience for viewers will be negatively impacted.

With a hybrid QC solution, broadcasters get the best of both worlds: the ability to speed up quality control workflows through automation and the opportunity to intervene manually, should the need to resolve false positives and negatives occur.

When choosing a QC solution, there are several critical requirements that broadcasters should look for. The QC solution should provide comprehensive checks covering standards compliance, regulatory checks, and baseband checks in the industry, including PSE/flashiness checks. This will ensure that broadcasters can detect errors faster and deliver superior content quality.

The integrity of content should be guaranteed throughout each step of the broadcast workflow, from ingest to transcoding, playout, and archive. A variety of media codecs, containers and file formats need to be supported, including SD, HD, 4K, and UHD.

Selecting a system with ascalable architecture will allow easy expansion as broadcasters' needs grow. This is extremely important, because the quality control process continues to become more complex and everyday broadcasters are adding new features and services that require additional QC checks.

Another imperative feature is high availability. In the broadcast industry, downtime means lost revenue and viewership. A QC solution that guarantees business continuity, even if some of the hardware components break down, is needed.

Control is another vital capability in a QC solution. Every broadcast facility is different. Broadcasters want the flexibility to define workflows based on how media content flows in their specific facility. In particular, it's advantageous for broadcasters to see a visual list of manualQC checks enabled in the test plan, add necessary errors, as well as mark each manual task as reviewed.

Finally, broadcasters are beginning to see the value of data analysis, in terms of being able to effectively track trends and anomalies in the media content, optimising decision-making and QC operations. Deploying a hybrid QC solution with all of the functionalities discussed throughout this article will enable the delivery of flawless video on every device, in the most efficient and cost-effective manner possible.