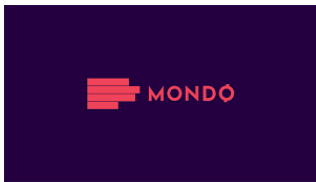


Etere Delivers a Better Experience at Mondo TV, the World's Largest NDI Facility

Etere Ecosystem simplifies content management, production and distribution workflows for Mondo TV to achieve benefits including higher revenue, better cost-efficiency and faster delivery to market for the world's largest NDI® facility.



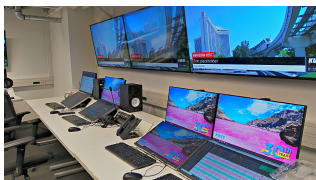
Mondo TV logo



Mondo TV



Master Control Mondo TV



Mondo TV

Introduction

Mondo TV is a newly established TV station in Belgrade, Serbia. The TV station selects Etere to manage the complete NDI playout workflow for 40 channels. The first channel kicked off its go-live on 28 June and it runs as a live internet TV on Mondo TV's online platform, kurir.rs, as well as on Telecom Serbia's website for the local market. Mondo TV is equipped with an **Etere Ecosystem** framework that manages its end-to-end workflow including Newsroom, Transcoding, Playout Automation, Monitoring, Airsales and Subtitling.

Besides internet TV, the station also has plans to launch TV-On-Demand channels, DOX TV and KLASIK TV, for the local TV-On-Demand market. With over 40 channels of NDI playout powered by Etere that are ready to run, Mondo TV is currently the world's biggest NDI powered facility. The distributor for this project is VPK, Slovenia's biggest television production company with offices in Croatia and Serbia.

In 2019, Etere successfully implemented the world's first fully NDI connected system for four of VPK's channels. It is a revolutionary setup that provides VPK with a uniformed connectivity throughout the facility combined with an interconnected Etere Ecosystem framework that allows a more efficient way of working. **Etere NDI** setup provides a stable connectivity for users to transmit high quality videos across IP networks in real time, with little to no delay. Moreover, the solution does not require any other IP protocols and allows the station to have a significant amount of cost savings while ensuring better reliability and flexibility.

Etere is the Preferred Choice

Mondo TV selected Etere after a series of demonstrations and evaluations on the software. The integrative features and open architecture of Etere Ecosystem produces a more efficient way of working and consequent savings of time and expenses. After seeing how easy Etere integrates with external solutions such as Newtek for the management of NDI feeds, the station decided that Etere would be able to help them to achieve their business objectives. Therefore, Etere was selected as their preferred choice.

Market Opportunities

During the project initialisation phase, Mondo TV decided that a SDI system is not able to support their business objectives and a NDI playout system was the way to go. This is largely because NDI architecture is a 1 to multiple outputs. This allows all departments at Mondo TV to use the same NDI signal. Furthermore, a NDI setup is more cost-efficient and easier to manage with fewer hardware. Etere NDI playout is designed for the best flexibility in the market but without compromising on the quality of the playout.

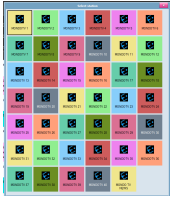
Challenges and Solutions

In the newsroom, Mondo TV operators have to prepare the news materials before preparing the daily news playlist. The clips are then uploaded using **Etere Web**. Once the clips are uploaded, they are imported into Adobe for editing. Subsequently, the final clips are imported into the playout automation system.

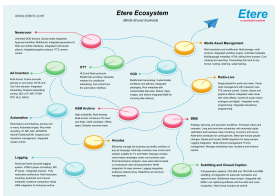
The assets are created internally and ingested from external NDI feeds. In some



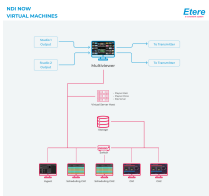
Mondo TV



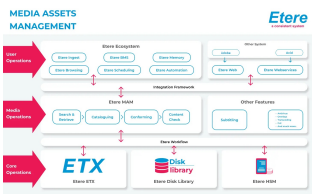
Mondo TV station list



Etere Ecosystem



Virtual Machines



Media Asset Management diagram

cases, some of the assets are ingested from micro SD/external HD and copied into Etere or uploaded to Etereweb.

After the ingest and web upload stages, all original materials must also be stored to the cloud device used by Mondo TV. A customised workflow was created by Etere to automate this process. With the workflow designer, a visual paperless representation of each step is mapped out for an easy reference. It allows Mondo TV to monitor, update and manage their assets easily. Even when there is an update in the technical requirements, Mondo TV can easily update their workflow with the **Etere T-Workflow** tool. This empowers them with the agility and adaptability to meet the needs of the industry.

Etere T-Workflow integrates seamlessly with Etere MAM to manage the flow of information throughout the broadcasting workflow. It empowers broadcasters with the software tools to customise, optimise and orchestrate workflows across the end-to-end media lifecycle. Powered by Microsoft SQL, it can start 100,000 workflows in under than one second and is able to support even the most demanding of broadcast environments. The distributed architecture enables a highly resilient and fault-tolerant performance. Using the workflow designer, Mondo TV is able to design customised workflows with automated workflow actions representing interconnected actions in the broadcasting process. Furthermore, it facilitates the simultaneous execution of multiple independent actions in the broadcasting process.

At Mondo TV, newsroom journalists upload files from external agencies, ingest and NLE departments. Etere enables the editing of assets while ingesting. This streamlined process makes it easier for the station to bring content to market quickly.

In addition, with the T-Workflow Monitor which is integrated in the **Etere Monitoring Console**, supervisors are able to monitor all workflows executed on a centralised interface. It makes it easy for them to manage the assets and related operations including transfers, checks and requests. This allows a more efficient and controlled system management. For example, it is easy to check how many assets are attached to a workflow as well as the state of assets attached to a workflow.

Previously, the station did not have an archive solution. They have selected **Etere HSM** for the management of LTO tapes for archiving. All original and edited content are automatically sent to archive for future re-purposing of content. A customised workflow was designed with the Etere team to execute this process automatically and efficiently.

Etere HSM brings about a series of benefits to the station including

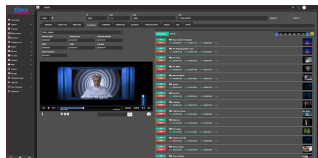
- Automatic update of the file library's status
- Automatic archiving of high and low resolution copies as well as master and TX copies
- Long-term archive management
- Able to produce up to 3 copies of tapes which can be held in the library, both on and off the shelf for increased security
- A single dashboard to manage a multi-library environment, including the management of different libraries located in different places as a single logical entity
- Allows the archiving of video files in both high and low resolution with increased protection
- Enables metadata integration when a clip is archived in the Tape Library
- Backs up a copy of the database
- Optimises disk space according the cost of files for a more efficient operation

Etere Integration for Adobe Premiere Pro

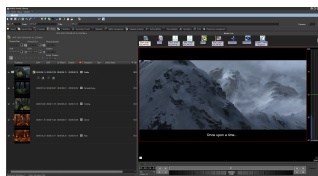
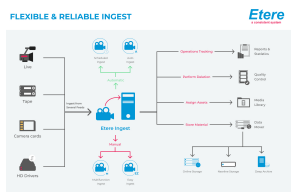
Etere provides a seamless connectivity between Etere Ecosystem and Adobe Premiere Pro for a better user experience. At Mondo TV, most of the workflows are integrated with the NLE environment. For example, the journalists prepare the materials before the daily news playlist is configured. Thereafter, the clips are



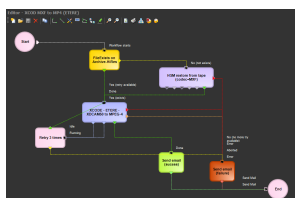
EtereWeb Multiplatform



EtereWeb

Media Asset Management
Media Cockpit

Etere Ingest diagram



Etere Transcoder workflow

uploaded using Etereweb. They are subsequently edited using Adobe and playout with Etere Automation. Etere's NLE integration for Adobe provides a seamless connectivity between the Etere Ecoystem and Adobe Premiere Pro to allow editors to enhance content quickly and easily.

With a secure login, Mondo TV users can see his/her assets and access Etere database directly without the use of "FTP" or "Hot folders". Furthermore, Etere includes fully tracked uploads with digital receipt of files and instant workflow activations.

Through **Etere Resource Management**, operators at Mondo TV are able to assign, distribute and track tasks easily. The centralised database enables instant updates and live status of the tasks to be displayed. For example, if an editing task has been taken up by an editor, others in the team would be able to track the live updates and the task status.

Integrated Sales and Accounting Management

The project includes the Etere Airsales module which is an integrated solution for traffic, accounting and sales management operations. With the centralised Etere database, Mondo TV is able to effectively plan, update and track the sales and accounting data associated with all assets in the system. Etere Airsales unlocks the complete management of advertising sales activities including pre- and post-sales activities, sales campaigns, customer relationship proposals, commercial planning, invoicing, Accounts Executive and agencies commissions. Etere Airsales would be rolled out in the next project phase.

Etere Subtitling and Closed Caption Software

As part of the project, the **Etere Subtitling and Closed Caption Software** manages the production, approval and transmission of Mondo TV effectively. With its activation, operators are able to insert live captions, open captions and closed captions including ARIB and Digital Video Broadcast (DVB) via ETX inserter. Etere Subtitling and Closed Caption Software also makes it easy for broadcasters to monitor and verify all captions to comply with closed captioning laws across different countries. Furthermore, it is integrative with **Etere Media Asset Management (MAM)** for an effective and efficient management of multi-language subtitling.

Benefits

An Integrated Solution with Seamless Connectivity

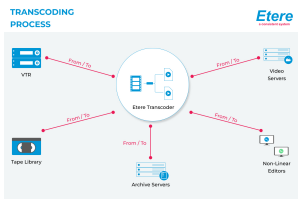
Etere is an integrated system that promotes connectivity and a high level of efficiency across all functions in the system. Designed to allow a better flow of both internal and external information in the company, the digital connectivity also allows complete visibility and control over resources, processes and costs. In today's interconnected world, Etere breaks down geographical barriers and enables teams to collaborate more efficiently through the use of digital tools and a connected database. This is important to Mondo TV as they have journalists and editors working on the same content but may not necessarily be in the same studio. In addition, the use of automated workflows enhances reliability and accuracy across all stages of the mediacycle.

The Agenda

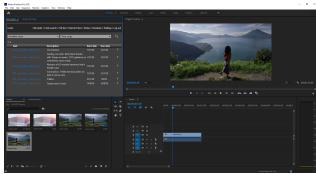
Etere Agenda is a central job repository that facilitates the management of previews, approvals, asset data management, subtitling, ingest, dubbing and more. It features instant updates and a centralised database that makes it easy for operators to assign, share, approve, view and take on tasks. The Agenda view allows Mondo Tv operators to consult and manage all appointments and tasks for the station. It is also perfectly integrative with Microsoft Outlook and helps station operators, editors, journalists and supervisors to keep track of upcoming tasks and appointments. It enhances collaboration among the team and empowers journalists to deliver stories from wherever they are.

Flexibility

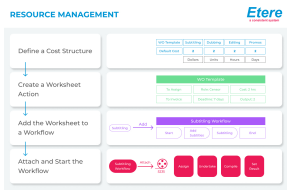
Etere enables full flexibility on the technical specifications, format, metadata, rights and location of materials delivered to multiple platforms. As it is an open system,



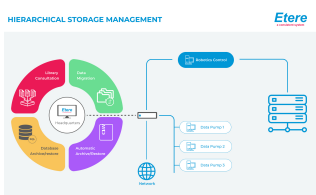
Etere transcoder decode, encode, transcode, mux, demux and filter almost any media



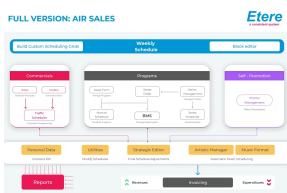
Etere Adobe Agenda and Tasks



Resource Management



HSM Diagram



ETERE AIRSALES diagram

there are no restrictions on the type of media to be delivered. This allows Mondo TV to adapt easily to changing business requirements and maximise the returns on their assets.

Scalability

Etere allows Mondo TV to scale up or down easily without a major change in the system. This means that the Etere system is ready to grow with the business, making it an ideal choice especially for a new channel like Mondo TV.

Efficiency Across the Workflows

Etere reduces manual tasks and enable the planning of workflows in advance to optimise the system performance and enhance productivity across the station.

Secure and Easy User Permissions

With the system's integration with Active Directory, user permissions can be managed effectively across all levels of operations. A user can have multiple customisable user permissions based on her/her job function and/or department. On Etereweb, the same authenticated login is required for each sign in session.

Easy Usability

Etere features intuitive controls and a sophisticated interface. All applications and web interfaces are designed with ease and speed of use in mind. Furthermore, Etere allows Mondo TV to adjust or design workflows according to their evolving technical requirements, all without a big change in the system.

Multiplatform Support

Etere supports multiple platforms with its web interface, also known as EtereWeb. With a secured login, users can access the system on the device of their choice including mobile phones, tablets or laptops. At Mondo TV, this allows the journalists and editors to drive their workflows even when they are outside of the studio. For example, if live streams are recorded, journalists are able to send the recorded NDI feeds to the station's headquarters and the feeds are subsequently streamed with Etere Automation.

Monitor Multiple Sources on a Single Interface

With the **Etere ETX-M Multiviewer**, Mondo TV is equipped to monitor multiple live video input sources for a simultaneous broadcast from a single interface. Furthermore, Etere Multiviewer equips Mondo TV operators with the capability to watch external feeds. For example, when its news journalists are reporting from a live event, they are able to stream in live footage which can then be viewed by the studio operators on the multiviewer.

Significant Cost Savings in Hardware

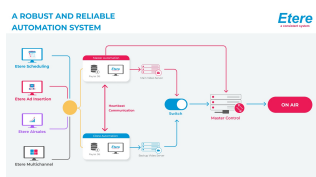
Etere NDI payout solution enables a low total cost of ownership as it requires only the common IT components. It is a fully digital professional video technology that does not require traditional SDI hardware, cables or accessories. This results in significant cost savings in hardware, operational and maintenance costs. The NDI payout setup requires only standard Gigabit cables and frees Mondo TV from a dependency on distribution amps and video matrix routers.

Future-Ready Solution

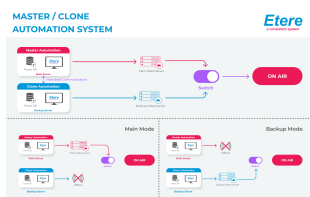
Etere supports existing SDI and IP-based technologies and is ready for emerging formats of the future. Furthermore, Etere support contract comes with unlimited software updates and upgrades to optimise performance and incorporate the latest features developed by the Etere R&D team. As a result, Mondo TV is always at the forefront of technology with the software features.

Integrated Quality Control

Etere incorporates **Etere Quality Control** in the system to perform automated quality scans on media files via configurable workflows. It is able to detect and identify video and audio issues including freeze frames, black frames, scene changes and audio loss based on the assets' EDL. Additionally, it can be used after encoding, ingest, editing, transcoding and load balancing. From a single interface, Mondo TV can manage the end-to-end operations easily.



Etere Playout Automation diagram



Automation Clone



ETX and Multiviewer



Channel in a box Etere ETX



NewTek NDI

Automatic Loudness Control (ALC)

With the integrated Automatic Loudness Control (ALC), Mondo TV is able to monitor the feed's audio level through the Etere ETX-M Multiviewer. This provides the TV station with the option to automatically detect loudness problems including auto jumps between programs and commercials as well as signal handling to comply with global recommendations for loudness measurement.

Integrated Transcoding, Encoding and Decoding

Etere enables unlimited format conversions for all common formats used in the broadcast industry. With a quick and easy workflow configuration, the system is able to decode, encode, transcode, mux, demux and filter any media used in the broadcast industry. Besides that, **Etere Data Mover** also provides encoding and decoding between media formats, conversions of bit rates and change of video resolutions to meet lower resolution screens. The tight integration of the system ensures that Mondo TV can configure workflow actions to transfer, copy and move digital content from one level to another. These include from/to post-production facilities, servers and archive.

Integrated MAM for a More Efficient Way of Working

Etere Media Asset Management (MAM) empowers Mondo TV with a system that streamlines the process of ingest, cataloging, storage and retrieval of digital assets. With a centralized database, Etere MAM simplifies content management across the mediacycle, orchestrates workflows, reduces manual tasks and maximises the value of media assets.

Additionally, with its distributed architecture, Etere ensures a fault-resilient performance.

The end-to-end toolset comprises of features including active directory-integrated rights management, automatic content processing, generation of multiformat, multipurpose files for delivery to multiple platforms, on-demand reports for valuable analytics and business insights, integrated hi-res player, file transcoding, fast performing quality check and configurable workflow designer.

With the highly effective and customization automation capabilities, Etere MAM provides all the features needed to help Mondo Tv to boost productivity and maximise the value of their media assets.

In addition, Etere is also accessible via a web interface with secured login for real-time content search, retrieval, browsing and content editing to manage workflows from any location. With a simple login, users have secured remote access to the Etere database and cloud system from any internet browser and on the device of choice including tablets, laptops, mobile phones and PCs.

Interface with External Hardware

Etere features a high level of interoperability with third party systems and devices. The project includes the interfacing of Newtek devices and VIZRT devices in the broadcast workflow. For the network architecture, Etere also interfaces with Aruba network switches and Birdog mini NDI to SDI device.

With the successful roll-out of this project, Mondo TV achieves unprecedented efficiencies for the end-to-end management of the world's largest NDI broadcast facility and is all set to achieve success in the local market with Etere software.

About Etere

Since its beginnings in 1987, Etere has been preparing users to be ready for the future. Etere is a worldwide provider of broadcast and media software solutions backed by its mark of excellence in system design, flexibility and reliability. Etere Ecosystem software solutions including Media Asset Management, Channel-in-a-Box, Newsroom, Ad Insertion, Airsales, Automation, Broadcast Management System, Censorship, HSM Archive, Logging, OTT/VOD Delivery, Radio-Live, Subtitling and Captioning software are built with an integrative Web and Windows architecture that are customisable to fit perfectly in your system. Etere delivers on its service excellence commitment with its dedicated team and a 24/7 worldwide support. Its portfolio of digital technologies and market-proven remote/on-site solutions including consultancy, training, installation and demonstrations are ready to run with your business no matter where you are. Etere enhances your adaptability for the future and empowers you with the software tools to drive your business to greater heights.

