

# MEDIA EXCEL CASE STUDY

CLIENT: TUBITAK - TURKEY  
VAR: ENISA GROUP



TUBITAK, the Scientific & Technological Research Council of Turkey, selects Media Excel's HERO transcoders, for its most demanding deployment.

## CLIENT DESCRIPTION

The Scientific and Technological Research Council of Turkey (TUBITAK) is the leading agency for management, funding and conduct of research in Turkey. It was established in 1963 with a mission to advance science and technology, conduct research and support Turkish researchers. The Council is an autonomous institution governed by a Scientific Board whose members are selected from prominent universities, industries, and research institutions.

BILGEM is TUBITAK's Informatics and Information Security Research Center, which focuses on information technology, information security, and advanced electronics. TUBITAK BILGEM employs more than 1,600 staff—more than 80% of whom are R&D staff—and it strives to provide each of its customers with tailored solutions to fully address all needs and concerns.

TUBITAK BILGEM was commissioned to modernize Turkey's Digital Record, Achieve and Analysis System (SKAAS) for RTUK. The goal of the SKAAS-III Project is to receive DVB-compliant digital broadcast transport streams from operators across Turkey and analyze them in both real-time and off-line workflows.

Enisa Group is Media Excel's local partner that has closely collaborated with TUBITAK's team on this project.

## BENEFITS

- Proven, highly reliable architecture for 24x7 operations with N+M redundancy for transcoders and 1+1 redundancy for NMS
- Versatile solution that uniformly addresses a wide range of services (from radio to Dolby and from SD to UHD)
- Highly dense and cost-effective solution that accommodates over 700 services in a single server rack
- Centrally-managed and secure architecture for provisioning and monitoring all services
- Unmatched video quality and compression efficiency to minimize storage requirements without compromising analysis workflows

## CHALLENGES

With a diverse range of inputs (SD, HD, UHD and radio) and extremely high-reliability expectations (over 5 nines), TUBITAK has been looking for a versatile, yet proven solution to accommodate their project requirements. In fact, due to the volume of services (over 700 channels), a dense and centrally managed platform was necessary.

## SOLUTION

After an extensive search throughout various competitive offerings, Media Excel's HERO LIVE platform—provided through Enisa Group—proved to be the best-fitting solution.



TUBITAK's scientists designed an elaborate and detailed test plan which the Media Excel HERO Live Transcoder successfully passed in all test cases. In addition to its great performance, Media Excel has provided a compelling business case demonstrating exceptional responsiveness to the needs of the end customer.

The Media Excel and Enisa Group teams performed the deployment in Ankara, Turkey and then handed over the site to TUBITAK's team for final validation.

Media Excel engineers worked closely with TUBITAK's team to integrate Media Excel's HERO Management System with TUBITAK's state-of-the-art umbrella NMS platform, which enables the end customer to provision additional channels and monitor their status end-to-end and in real-time. This was accomplished through the REST API framework exposed by HMS, enabling TUBITAK to gain full remote control and visibility of the deployment.



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## TECHNICAL DETAILS

### PROJECT: TUBITAK SKAAS-III

#### PRODUCTS: MEDIA EXCEL HERO LIVE - HMS

##### Inputs (over DVB-TS):

- 1 UHD service (capacity for 2 services)
- 448 SD services
- 120 HD services
- 150 Radio services

##### Outputs:

- TS/UDP streaming and broadcast
- Real-time recording/archiving in TS and MP4 with timestamps

##### Architecture:

- Highly reliable 5-nines architecture with N+M redundancy
- 1+1 redundancy for HMS NMS
- Network bonding for management, input and output interfaces
- Central configuration and control through WebUI and API
- Integration with TUBITAK's provisioning and analysis workflows
- Integration with NAS over NFS
- Integration with SNMP for telemetry and alarming
- Scalable and flexible architecture allowing for easy expansion
- LDAP integration for user management, auditing and escalation

## TRANSCODING IN ACTION

Media Excel's client roster consists of highly trusted names in media, serving millions of users daily across the globe. These clients depend on Media Excel for its deliverance of Versatility, Scalability, and Flexibility to keep their media workflows operating efficiently and their viewers coming back for more.



FOR FURTHER INFORMATION PLEASE CONTACT:

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## SOLUTION CONTINUED

HERO demonstrates exceptional versatility in handling the wide range of inputs—both in terms of content (TV and Radio) and payload properties (SD, HD, UHD and MPEG-2, H.264, HEVC). This uniform approach is essential for TUBITAK's operations, as it enables scalability and growth across multiple dimensions i.e.:

- More services (e.g. more UHD channels)
- More outputs (e.g. streaming or recording formats)
- More codecs (e.g. Dolby Digital or HEVC codecs)

At last, reliability has been essential for the success of this project and through which Media Excel was able to propose and implement a fully redundant solution. Due to satellite reception, input services may present occasional interruptions; thus, transcoding workflow must remain resilient to such anomalies and recover gracefully, without impacting the recording and analysis workflows downstream.

To accomplish this, a N+M redundancy scheme was implemented for the transcoder units and a 1+1 one was set up for the HMS units. Further, the HERO transcoder units were configured to tolerate and compensate for input anomalies, such as packet loss, PID switch overs, lack of audio, artifacts/macroblocking, etc. The end result is a high availability architecture with proven 24x7 resiliency.

"We have been extremely pleased with Media Excel's HERO platform for achieving high quality and reliable transcoding, streaming and real-time recording at an incredible density per transcoder. It has been wonderful to work with such responsive, professional teams as the Media Excel and Enisa Group."

Mr. Erol Kahraman  
Project Manager, TUBITAK

## FUTURE

As TUBITAK continues to expand their workflows to include exciting new features, both the Media Excel and Enisa Group remain in close partnership to complement those efforts.

The success of TUBITAK's project presents an important milestone for Media Excel and Enisa Group for the region. This has, undoubtedly, been instrumental for the acquisition of additional business, as TUBITAK is highly respected organization, widely-recognized for its high standards and performance.

  
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