

Morgan Lewis

William B. Wilhelm, Jr.

Partner
+1.202.373.6027
william.wilhelm@morganlewis.com

July 29, 2016

Via ECFS

Marlene H. Dortch, Secretary
Federal Communications Commission
Office of the Secretary
445 12th Street, S.W.
Washington, DC 20554

Re: CG Docket No. 05-231, Notice of Ex Parte Communication

Dear Secretary Dortch,

On July 27, 2016, Mudar Yaghi, Chairman and Founder of Apptek, Adam Sutherland, CEO of Apptek and the undersigned met with Karen Peltz Strauss, Deputy Chief, Bureau of Consumer and Governmental Affairs, Suzy Rosen Singleton, Chief, Disability Rights Office (“DRO”), Eliot Greenwald, Deputy Chief, DRO and Jenny Ledig, DRO legal intern.

Apptek began the meeting by noting that throughout the history of this docket, the Federal Communications Commission (“FCC”) has sought input from the public regarding technological solutions that would improve the display of real-time captioning. The purpose of the meeting was to educate the Commission staff about the current state of these capabilities by sharing the attached presentation and providing a live demonstration of the company’s closed captioning appliance. The appliance is currently being used and tested by a number of domestic and international broadcasters for providing live closed captions.

Apptek has over 20 years of experience in providing speech-to-text and other automated speech recognition (ASR) solutions. The current appliance is upwards of 95% accurate with training; synchronous, with an average of 4 seconds latency¹; and highly cost effective as compared to other live captioning solutions. For example, for a broadcaster airing 4 hours of live news programming a day, it can offer a savings of 80-90% when compared to manual captioning.

Unlike other ASR capabilities generally available, the Apptek appliance was specifically developed for integration into broadcast news rooms. The device was specifically trained on broadcast news,

¹ Where live programming is aired using a delay, the captioning can be offered with no latency.

Morgan, Lewis & Bockius LLP

2020 K Street, NW
Washington, DC 20006-1806
United States

T +1.202.373.6000
F +1.202.739.3001

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sports, weather and other factual programming. Because the appliance requires no internet or telephone connectivity it is also uniquely capable of offering redundancy and guaranteed up-time. Further, the appliance can be trained to recognize unique words, accents and intelligently identify individual speakers.

Regarding the completeness of the translation provided using the company's technology; Apptek compared an hour of live programming with captions produced both by the Apptek appliance and human captioning. Because of the nature of live programming and the pace of speech, the Company found that human captioning solutions often contain significant omissions from the actual spoken word. In the sample that Apptek reviewed, the company found that if omissions were included, the human captioning provided an accuracy rate of 59% compared with an accuracy rate of 92% using the Apptek solution "out of the box" and without introducing any speaker training.

In providing a live demonstration of the appliance to Commission staff, Apptek demonstrated the real time processing of speech-to-text. Apptek explained that the system is capable of speaker recognition, speech segmentation and certain non-speech detection (eg: music, applause). In addition to captioning in English and Spanish, the system is capable of captioning 12 other languages including Arabic, French, German, Chinese, Portuguese and Turkish with additional languages to be added. The multi-language capability also provides for the additional ability to provide translated subtitles in any of the supported languages (for example, captioning live Arabic programming in English).

Finally, Apptek explained that it is constantly improving its system and will be adding new features in the August release that will include support for grammatical breaks, basic punctuation support, formatting to denote speaker changes with text color and additional notations.

Respectfully Submitted,

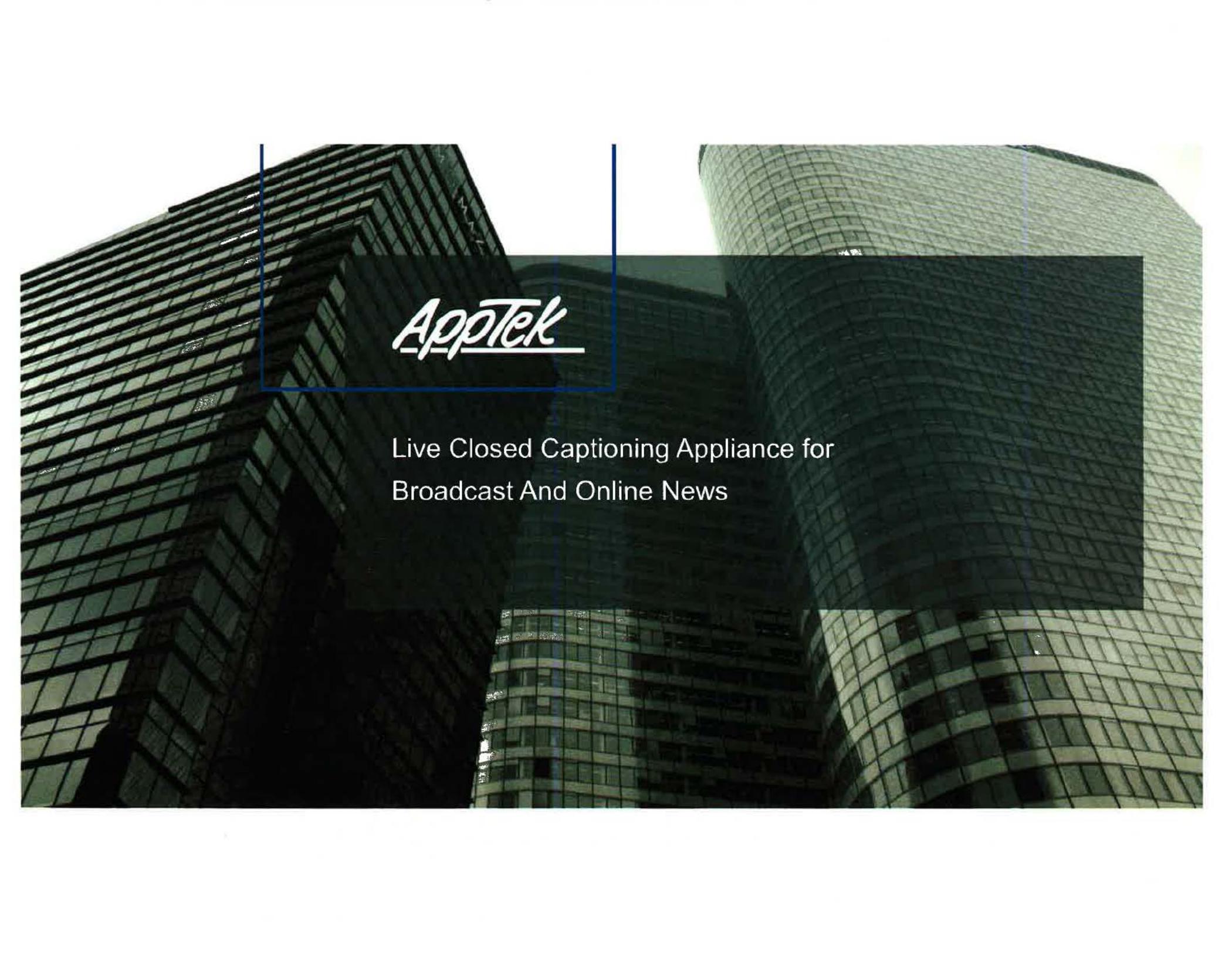
/s/ William B. Wilhelm, Jr.

William B. Wilhelm, Jr.

Counsel for Apptek

Attachments

cc: (Via E-Mail)
Karen Peltz Strauss
Susy Rosen Singleton
Eliot Greenwald
Jenny Ledig



Apptek

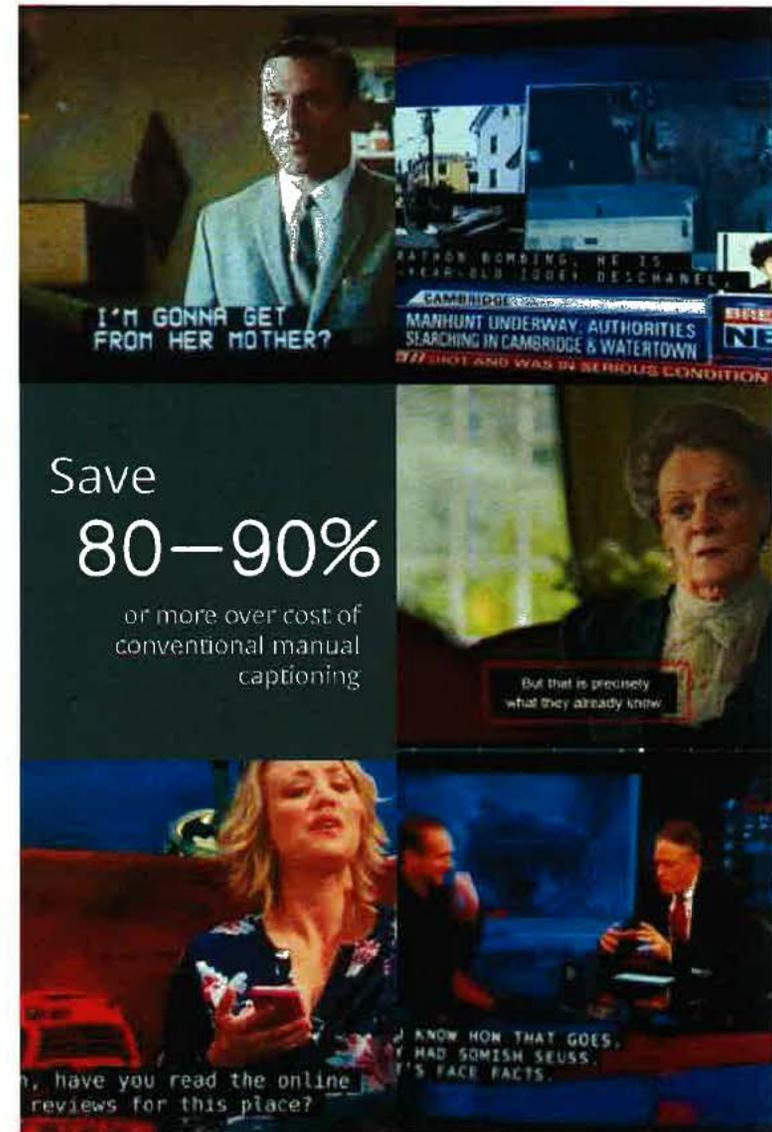
Live Closed Captioning Appliance for
Broadcast And Online News

Live Closed Captioning Appliance

AppTek's language technology breakthrough revolutionizes the closed captioning process. The Live Captioning Appliance is a cost effective, stand-alone server installed with AppTek's automatic speech recognition (ASR) media software that delivers fully automated, same-language captions for live content with accuracy and speed that match or exceed human captioning.



- Accurate – Upwards of 95% accuracy with training
- Synchronous – Average latency of 4 seconds
- Complete - No “Dead Air”
- Improved workflow - Better content management by integrating captioning process in news workflow to create searchable text files for re-air, production & archives.



Save
80—90%
or more over cost of
conventional manual
captioning

I'M GONNA GET FROM HER MOTHER?

CAMBRIDGE MANHUNT UNDERWAY. AUTHORITIES SEARCHING IN CAMBRIDGE & WATERTOWN. SHOT AND WAS IN SERIOUS CONDITION.

But that is precisely what they already know.

... have you read the online reviews for this place?

I KNOW HOW THAT GOES. I HAD SOMETHING SEUSS. IT'S FACE FACTS.

Live Captioning



Save **80%** Translation
Time & Costs

- The Live Captioning Appliance uses AppTek's Automatic Speech Recognition (ASR) to deliver fully automated, same-language captions for live content in English and Spanish
- As well as 12 other languages including Arabic, French, German, Chinese, Portuguese and Turkish.
- This solution was developed for and trained on broadcast news, sports, weather, and other factual programming.



Integrates Into
Broadcast Workflow

Raw Footage



Edit Suite



Live News



AppTek's Live Captioning Appliance resides at the broadcaster's facility and integrates into existing infrastructure and workflows including newsroom systems such as AP-ENPS & i-News, etc.

Does not require internet or telephone connection



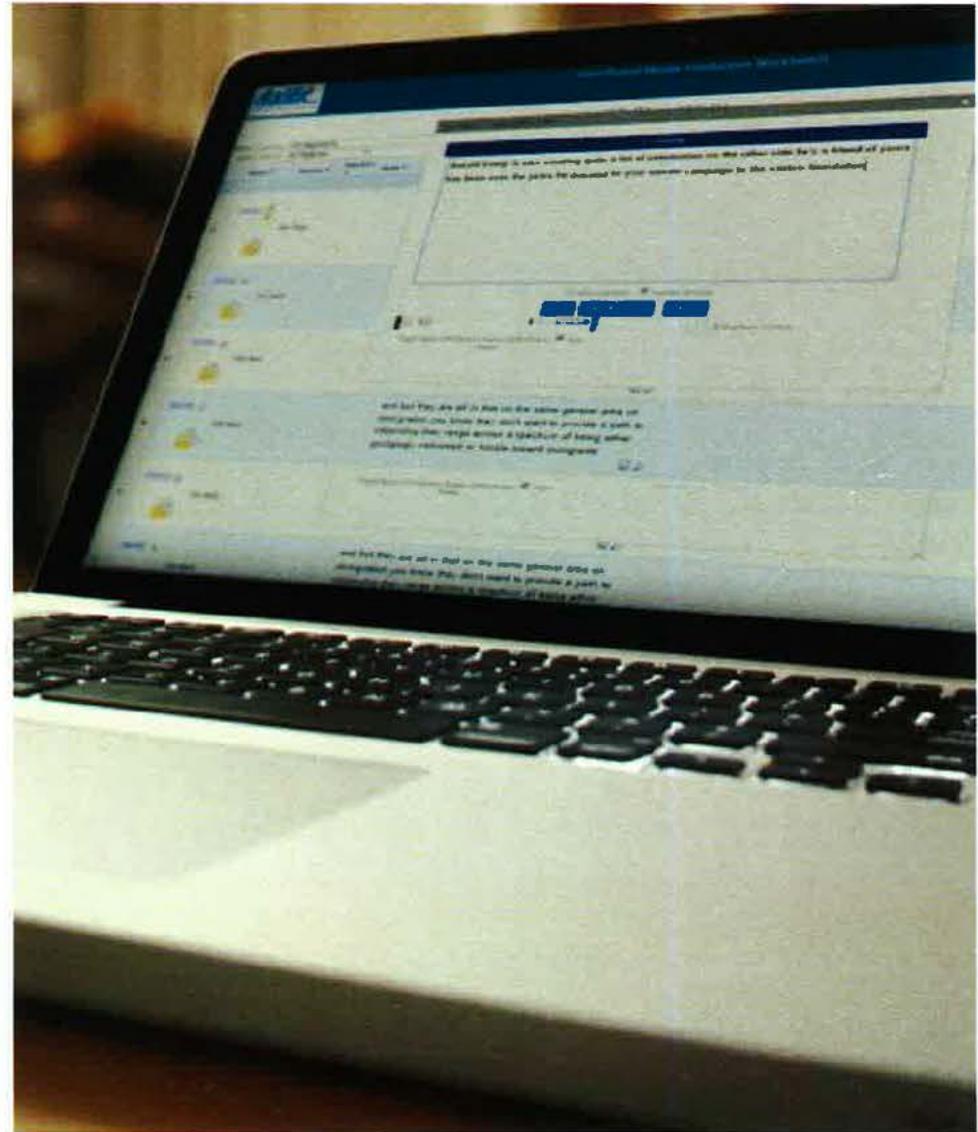
Live Captioning Features

- Real-time processing
- Speaker recognition, speech segmentation and non-speech detection
- Text Natural Language Processing (NLP) for grammatical breaks and capitalization**
- Formatting to denote speaker changes with >> or text color change **
- Outputs the standard captioning key formats (.srt, .stl, .scc, and others)
- Output provides metadata for archival solutions
- For multi-language broadcasters the Live Captioning Appliance is:
 - Configurable with AppTek Translate for the creation of subtitles in multiple languages
 - Configurable with the AppTek CC/SUB Media Workbench for post-editing capabilities.

*** Available in August release*

Editing and Quality Control

- Offline editing and adaptation - AppTek's CC/SUB Workbench incorporates machine learning and is available for offline post-editing and adaptation to improve quality of recognition and output.
- A cloud-based multilingual platform allowing for a distributed workforce of transcribers and translators to post-edit simultaneously
- Text-to-Speech transcript timing for Voice-Over script adaptation



Pre and Post Production Uses



For stations with a “Digital First” strategy, the Live Captioning Appliance can be used offline to create captions & subtitles for web-stream news content ahead of the scheduled TV newscast.



Content with existing captions & subtitles can be processed offline to re-align & sync CC text to audio.

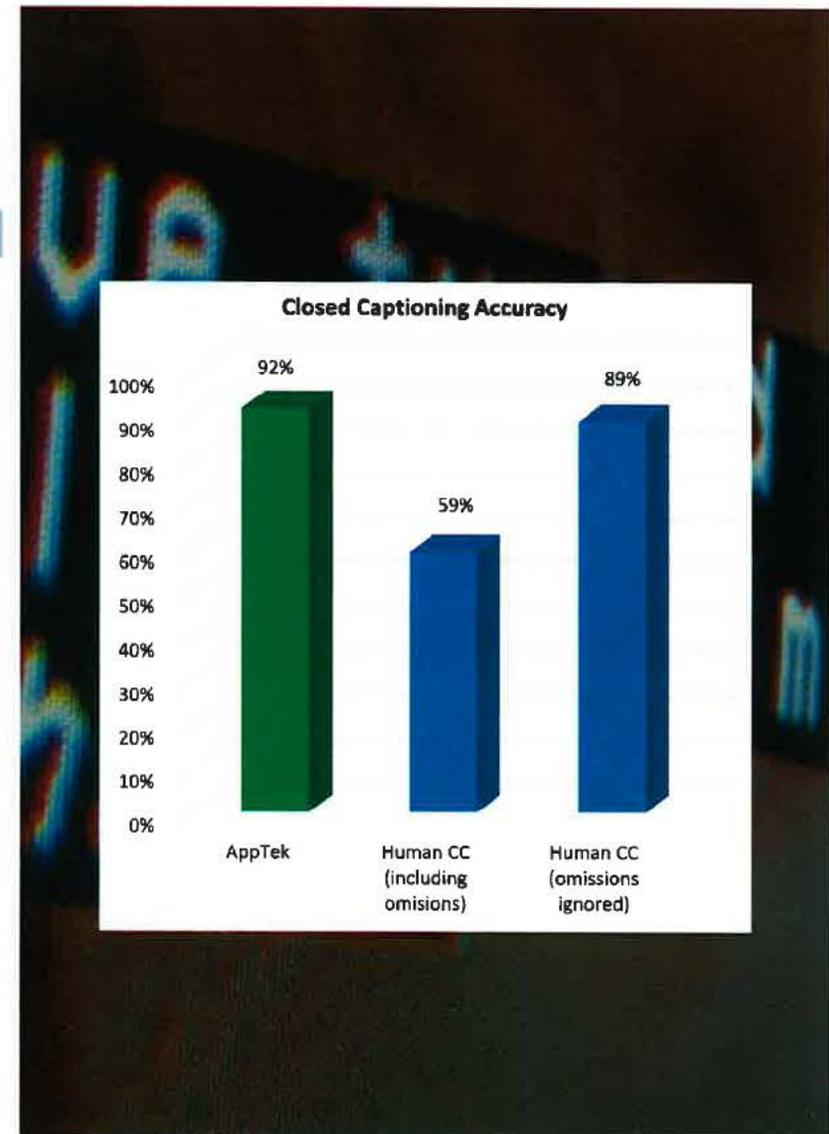


Allows existing transcripts to be perfectly synchronized with the source audio making time-stamped text that is fully searchable



AppTek Results Better Than Manual Processes

REFERENCE	APPTek ASR	HUMAN CC
THEY ALL HAD WARRANTS FOR THEIR ARREST	THEY ALL HAD WARRANTS FOR THEIR ARREST	
AND THEY THEY HAD DRUGS ON THEM WHICH IS WHY THEY DIDN'T STOP FOR THE OFFICERS	AND THEY THEY HAD DRUGS ON THEM WHICH IS WHY THEY DIDN'T STOP THE OFFICERS	THEY HAD DRUGS ON THEM WHICH IS WHY THEY DID NOT STOP FOR THE OFFICERS
NO ONE WAS HURT IN THE CRASH OR THE EARLIER SHOOTING	NO ONE WAS HURT IN THE CRASH OR THE EARLIER SHOOTING	NO ONE HURT OR SHOOTING
SUSPECTS ARE NOW BEHIND BARS	SUSPECTS ARE NOW BEHIND BARS	SUSPECTS ARE BEHIND BARS
POLICE BELIEVE THE SHOOTING MIGHT HAVE BEEN GANG RELATED	POLICE BELIEVE THE SHOOTING MIGHT HAVE BEEN GANG RELATED	PICK THEY BELIEVE THE SHOOTING MAY HAVE BEEN GANGED RELATED
AMTRAK'S BUSY NORTHEAST CORRIDOR IS BACK OPEN A DAY AFTER A DEADLY CRASH JUST SOUTH OF PHILADELPHIA	AMTRAK'S BUSY NORTHEAST CORRIDOR IS BACK OPEN TODAY AFTER A DEADLY CRASH JUST SOUTH OF PHILADELPHIA	AMTRAK'S CORE DOOR BACK OPEN AFTER A CRASH SOUTH OF PHILADELPHIA
A TRAIN HIT EQUIPMENT ON THE TRACK SUNDAY KILLING TWO WORKERS AND INJURING DOZENS OF PASSENGERS	A TRAIN HIT EQUIPMENT ON THE TRACK SUNDAY KILLING TWO WORKERS AND INJURING DOZENS OF PASSENGERS	IT HIT EQUIPMENT KILLING TWO COWORKERS INJURING DOZENS OF PASSENGERS
THE TRAIN THAT CRASHED WAS GOING FROM NEW YORK TO GEORGIA WHEN IT HIT A BACK HOE THAT WAS ON THE TRACKS SOUTH OF PHILADELPHIA	THE TRAIN THE CRASH WAS GOING FROM NEW YORK TO GEORGIA WHEN IT HIT A BACKHOE THAT WAS ON THE TRACKS SOUTH OF PHILADELPHIA	THE TRAIN WAS GOING FROM NEW YORK TO GEORGIA WHEN IT HIT A BACKHOE ON THE TRACKS SOUTH OF
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YEAH THE SO CALLED PANAMA PAPERS ARE ALREADY BEING DUBBED THE WIKI LEAKS OF THE MEGA RICH	YEAH THE SO CALLED PANAMA PAPERS ARE ALREADY BEING DUBBED THE WIKILEAKS OF THE MEGA RICH	AS PANAMA PAPERS BEING DUBBED WIKILEAKS OF THE MEGARICH
DON DAHLER REPORTS FROM NEW YORK	DON BAYLOR REPORTS FROM NEW YORK	



Key Benefits



Save money – Automates expensive, time-consuming manual tasks of transcribing and captioning programming.

Improve content management - Maintains accuracy and consistency across all content channels through automatic transcription and translation.

Monetize content – Engages with new audiences and allows for distribution on new platforms.

Faster time to market and faster return on investment – Leverage one single platform with less upfront work across multiple enterprise applications

Enhance quality - Accuracy improves as the QC corrections are learned by the software.

Creates rich metadata - Search engine optimization for archives, websites, news departments, program libraries, etc.

sky NEWS

mbc
GROUP

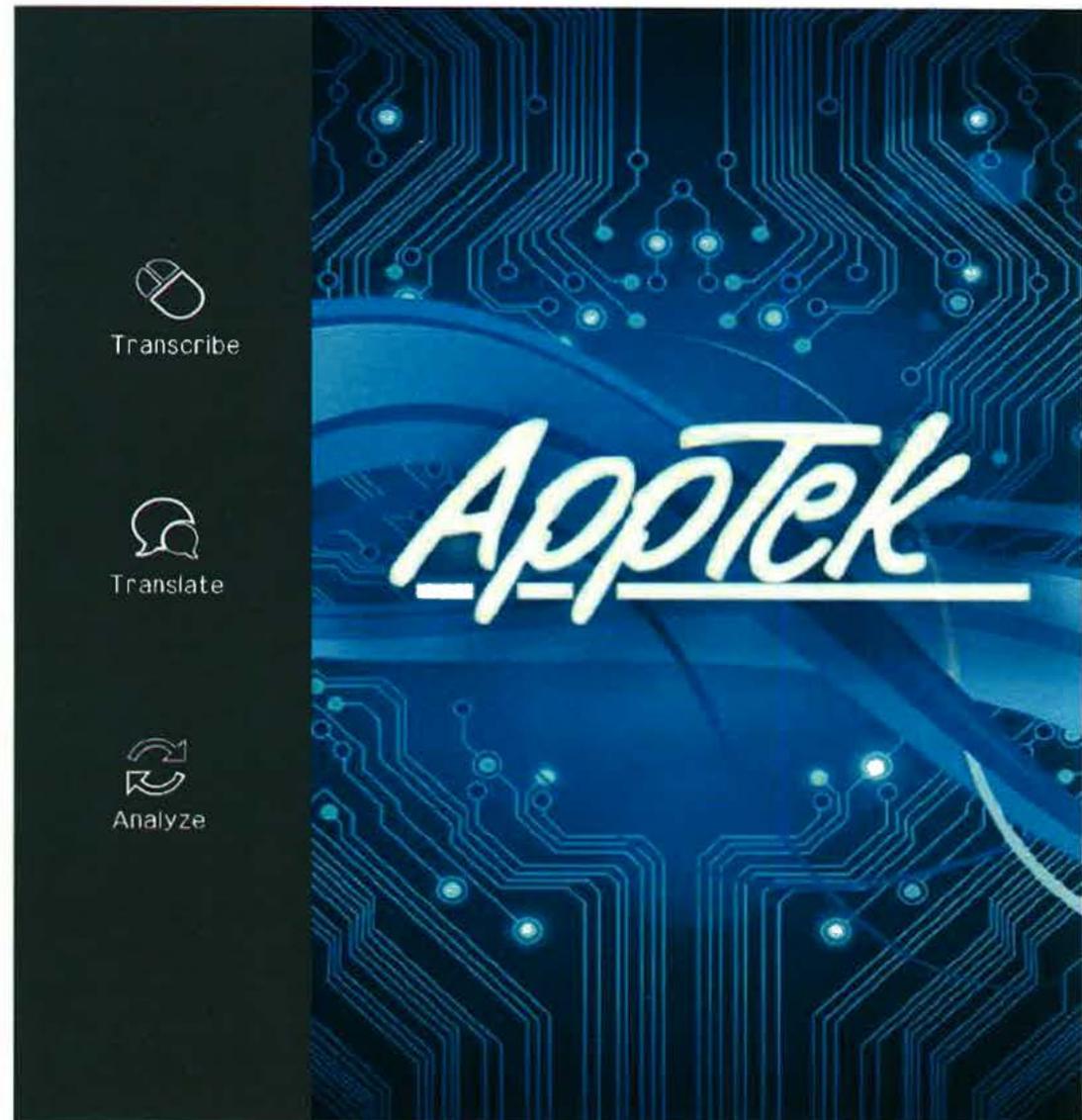
beIN
SPORTS

CNN
TÜRK

TeleFórmula

AppTek Overview

- Applications Technology (AppTek) is a leader in Automatic Speech Recognition (ASR) technology
- Founded in 1990; Offices in Washington, DC metro area, Aachen, Germany and Santa Clara, CA
- Provides highly-accurate, cost effective and efficient closed captioning, subtitling, media monitoring, interactive voice response (IVR) and machine translation solutions
- Validated by distinguished client base across North America, Europe, MENA and Asia
- World-class team of highly skilled scientists, computational linguists and software engineers



E-mail: info@apptek.com

Phone: (703) 821-5000

Website: www.apptek.com

Twitter: Follow us @AppTek_McLean

AppTek

Technology to Bridge the Language Gap