

PHILIPS

Dictation

Whitepaper



Intelligent document creation for a new way of working

Legal documentation workflow solution with AI-based speech recognition

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In cooperation with:
 **NUANCE**

Digital transformation is not sparing the legal industry. Ever-increasing regulations and growing competitive pressure are forcing law firms to reassess the way they work to streamline internal processes. Improving the workflow of legal correspondence and documentation is part of that journey – and this is where an innovative document production system with integrated speech recognition can make a difference.

Internal and external challenges

The recent global pandemic forced legal firms to implement many years' worth of digitalisation almost overnight. Consequently, greater efficiency through digital transformation is now a familiar topic at the leadership boards of law firms operating in the UK. Medium-sized and large firms are faced with the task of optimising their processes and redesigning collaboration for a remote workforce. At the same time competition is fierce, adding extra pressure to the business to innovate and perform better and faster. In a digital market, clients expect much more for less – and high service levels expertly delivered via online channels can be decisive to win their loyalty.

Internally law firms experience increasing documentation requirements to comply with data protection, GDPR and further industry regulations. Manual processes are prone to error and can easily become a problem. It has never been easier to make copies - and never more difficult to protect confidential documentation from unauthorised viewing.

Admin and record-keeping are part of any legal firm, but no one can manage what they are not aware of. A deficient internal process allows information to be buried in personal machines, affecting productivity for everyone. Lawyers are kept in the dark on resources available to deal with urgent client queries, and back-office teams spend far too much time and energy on mindless repetitive tasks instead of work that adds value.

Externally competitive pressure has been increasing for years. Classic streams of regular income are declining due to savvy clients benefiting from a buyers' market. Many firms are broadening their range of practice areas/ sectors to win more business, but this means that they can hardly fall back on experience from previous cases. New practice areas bring new problem-areas – and with an ever-changing global networking and economy - new answers must be found. This is very time-consuming and research-intensive. If a new client suffered damages caused by mistakes from poor research, the law firm could face loss of business and reputation.

Delivering automation and efficiency

To cope with all documentation requirements of a modern law practice, intelligent solutions for electronic document production are available, such as Philips SpeechExec Enterprise with integrated Nuance's speech recognition (Dragon Legal Anywhere). This powerful document creation tool combines the best of both worlds: documentation workflow from the world's market leader in professional dictation and AI-based speech recognition from the pioneer of speech processing innovations. The solution enables law firms to automate documentation production and allows staff to work productively regardless of their location.

The technology is Windows, Citrix, and VMware friendly, and can be deployed on-premises or through the cloud. Data is encrypted end-to-end both in transit and at rest, ensuring confidentiality and compliance. Not all clouds are the same - a private cloud resides, roughly speaking, within the company network. Many companies find this centralized model attractive because of the automation of routine tasks, i.e. software and firmware updates across all users. It guarantees that the data never leaves the company premises, which is sometimes required for compliance reasons.

A public cloud, on the other hand, is delivered by an external service provider via the internet. The main advantage of using public cloud services is low upfront investment, as new hardware purchases are not required. Solution maintenance is also provided by the supplier. The firm pays monthly fees for usage, which can be scaled up or down as required. Digitisation projects can be implemented much faster and cheaper because the effort for setup, configuration and maintenance is lower.

SpeechExec Enterprise with Dragon speech recognition can be deployed on-premises, through a company's private cloud or via public cloud. There are, however, few extra advantages for using the solution in the public cloud. The cost savings of low upfront investment, the speed and automation of document production, and the flexibility of the tool, which allows users to be easily added as required. For internal IT operations the solution brings a number benefits - central administration, high level of data security, and easy integration with virtually any business applications and case management systems.



1. Support for a remote workforce

Lawyers working away from the office - whether at home, or visiting clients, or at court - require a flexible document creation process that lets them to remain productive regardless of their location. SpeechExec Enterprise with AI-based speech recognition has several functionalities that support agile working. The system provides a smartphone app that turns a mobile phone into a dictation device, allowing lawyers to quickly summarise notes after a client meeting or formulate a motion after a court hearing, for example.

Voice recognition with specific legal vernacular then converts the audio file into text. The SpeechExec workflow routes the text file either to a pre-defined secretary or to the admin support team where an assistant does the formatting and assigns the finished document to its next destination. Alternatively, fee earners can simply dictate instructions for billing or calendar management, for instance. The workflow sends the recording directly to a specific assistant or team who can act upon the instructions. To ensure confidentiality and compliance, all data in SpeechExec Enterprise is encrypted. The software uses secure AES encryption (Advanced Encryption Standard) with a key length of 256 bits, keeping data safe whether in transit or at rest.

The speech recording quality of a smartphone is a great deal inferior when compared to dedicated dictation devices. Dictation devices are designed to capture and isolate the speaker's voice from external sounds, such as traffic noise, conversations nearby, ringtones, radio, TV, etc. Precise recording of the human voice is very important for high quality speech recognition results. Less time spent on text corrections leads to a faster documentation turnaround time, increasing productivity and efficiency.

The Philips SpeechMike range of dictation microphones or the Philips SpeechOne professional dictation headset have been especially developed to work with Dragon speech recognition, achieving 99% speech recognition accuracy. The SpeechExec user can dictate work on dedicated devices from other manufacturers as well. Modern recording devices generate audio files in WAV or MP3 format, which also work with the SpeechExec workflow. If a connection to the firm's network via the internet is available, all users within the SpeechExec workflow remain productive creating documentation from anywhere, at any time.

2. Benefits of speech recognition

The workflow technology of SpeechExec Enterprise with AI-based speech recognition also streamlines daily work in the law firm. Fee earners can dictate directly into any business applications such as Word, Excel, and email, or even applications specific for lawyers. Dragon's AI-supported speech recognition converts the speech into text in real time. This is particularly useful for firms with clients in different time zones, as the solution allows lawyers to work outside the admin support team's working hours.

Additionally, real-time on-screen speech recognition allows for even faster document production, giving staff more time to dedicate to more important work. On average, people can type 50 words per minute with the ten-finger system, whilst speaking at least 120

words per minute at normal pace. This means that speech recognition helps all staff produce legal correspondence and documentation three times faster than typing it on a keyboard - and without any typos.

Users can start straight away, as hardly any training is required. The recognition accuracy of Dragon Legal Anywhere integrated in the SpeechExec Enterprise workflow is almost 99% right from the start. Over a short time, the accuracy increases as the solution 'learns' from the speaker's speech and the text corrections thanks to its deep learning technology. In addition, it is possible to expand the vocabulary to include specific terms used within the firm.



3. Team collaboration

SpeechExec Enterprise gives a centralised view of all dictation and transcription work via desktop or mobile, whilst keeping all data encrypted in a secure platform. It maps processes such as drafting, editing, reviewing, approving, and routing legal correspondence and documentation. What's more, the system allows the team structure of the firm to be mirrored on the workflow. With the solution's direct assignment functionality, work can be automatically routed to a team or to specific individuals within a team. The system intelligently monitors and reallocates work based on availability of staff, maximising resource capacity. As a result, internal communication and client interaction are faster and more accurate, ensuring all staff are setup for effective team working and best-in-class virtual collaboration.

Another important functionality is prioritisation. Lawyers can assign priorities to their dictations to indicate how fast their work or instructions should be processed. The SpeechExec user interface shows a clear view of the quantity, priority, type, and status of work in the queue, allowing admin staff to process urgent requests first. Deadlines also play a major role in the daily running of a law firm. With SpeechExec Enterprise deadlines and pre-established rules can be assigned to planned documents. If a defined date/time passes, an automatic rule kicks in sending the work on to another staff for transcription, so that no important deadlines are ever missed. The SpeechExec workflow can also send automatic messages to individuals when new dictations are received or when documents have just been completed.

This makes the approval process more efficient and transparent. All users within the firm have visibility of which stage their work is at. Fee earners can better communicate with their clients, while admin staff can easily receive assistance when specific teams might be

overwhelmed by absences. Managers have a clear view of the work in the queue and current capacity, plus they can easily move tasks between staff to maximise utilisation. In addition, statistics tools provide in-depth information on staff productivity to detect instances of underperformance or under capacity.

Data security and availability

Besides being implemented on premises, users can access SpeechExec Enterprise with Dragon speech recognition through their private or a public cloud. Public cloud is highly secure and widely available, providing customers with extra benefits. For example, reputable cloud providers have developed methods to virtually eliminate server failures. This means that SpeechExec and Dragon users can always work on the application, without interruptions.

The data centres work with at least two, sometimes even three, identically set up servers. Every data processing taking place on one server is automatically mirrored on the second, making information constantly up to date. The servers are in different parts of the building in case an area catches fire or floods. Should one of the servers fails, the second takes over immediately. This process is so fast that users don't even notice any change. In addition, the level of data security at these data centres is extremely high, ensuring almost 100% protection against data loss. The central management of SpeechExec Enterprise allows the firm's IT department to remotely deploy the users' settings, firmware, updates, backup and restore operations, keeping interruptions at a minimum.

A document creation solution such as SpeechExec Enterprise with AI-based speech recognition has several advantages over conventional processes. Documents and correspondence remain in the SpeechExec workflow from the time the dictation enters the system until the task is completed – with the finished document sent to the client or filed with the court. Dated working practices such as the exchange of documents via internal post or fax or, even worse, the handling of recordings from analogue tapes, are eliminated - as well as erasing the bottlenecks and data security threats which they cause.

SpeechExec Enterprise also includes an archiving function that securely stores both the original recordings and the transcribed texts. Access to the dictations in the archive can be restricted to individual persons to ensure the confidentiality of the documents.

Conclusion

The combination of a powerful document production workflow with integrated speech recognition, as offered by Philips SpeechExec Enterprise with Nuance's Dragon Legal Anywhere, brings two world leaders in speech technology to help law firms implement a best-in-class digital strategy. To retain the best talent and thrive in a digital world law firms must offer a modern and flexible workplace that facilitates staff collaboration. It must also adopt working methods that encourage staff to rethink existing processes and engage with new technological tools. Consequently, the business will experience significantly leaps towards productivity, efficiency, and profitability by providing high service levels to their clients and the optimal work-life balance to their staff.

Briefly: Philips SpeechExec Enterprise with Dragon speech recognition (SEE)

- SEE enables medium and large law firms to switch to a powerful document creation module that supports remote working and staff collaboration. As a result, better productivity speeds work turnaround times leading to higher service levels.
- Equipping the workforce with modern tools such as SEE helps the staff manage their time more efficiently, so they can focus on work that brings more value to the firm. The workplace becomes more flexible and attractive to recruit and retain the best talent.
- A cloud-based document production platform keeps data encrypted in transit and at rest, reducing the risk of loss, breaches or cyberattacks.
- Speech recognition allows fee earners to create documentation in real time and customizable to each client, removing time-consuming editing and correction. Legal documents and correspondence are generated faster to speed client responsiveness.
- Automatic archiving prevents the loss of documents and dictation recordings. Access to the archive can be restricted to individual persons to ensure confidentiality and compliance.
- SEE is a flexible solution that can be implemented on-premises or delivered through the firm's private cloud or via the public cloud. The cloud option offers low upfront investment, as there is no need to purchase new hardware.
- For internal IT operations the solution brings important benefits – central administration, high levels of data security, and easy integration with virtually any business applications and case management systems.
- Managers have a clear view of the work in the queue and current capacity, plus they can easily move tasks between staff to maximise utilisation. In addition, statistics tools provide in-depth information on staff productivity to detect instances of underperformance or under capacity.

Do you work with admin support staff?

Yes

The workflow functionalities of SpeechExec Enterprise facilitate collaboration within the teams for an efficient document creation (e.g. automatic assignment, deadlines, approvals, etc.)

No

SpeechExec Enterprise with Nuance's Dragon Legal Anywhere allows you to create documentation or correspondence through speech recognition in real time, on-screen, directly on business applications such as Word, e-mails, etc.

How important is speech recognition to you?

Very

SpeechExec Enterprise with Dragon speech recognition offers legal vernacular and covers all possible user scenarios: in real time, on-screen, directly on business applications, as well as an engine "in the background" that can be used also by the admin support teams to transcribe documentation faster.

Hardly

If speech recognition is not an important functionality to you, SpeechExec Enterprise connects dictation authors and admin teams who do the transcriptions. It automates the workflow for a more efficient and collaborative document production process.

Is a GDPR-compliant public cloud service possible in your firm?

Yes

SpeechExec Enterprise is available through the public cloud via a subscription model. The solution is GDPR-compliant with the highest levels of data encryption and security.

No

SpeechExec Enterprise can be delivered on-premises within in company's private cloud. This way, the data remains within the firm's own network.

How important is remote working to you?

Very

SpeechExec Enterprise supports remote working for everyone within the firm. Whether you are working at home, visiting clients, or at court, simply record your instructions or dictation work with the smartphone app. The work task automatically enters in the SpeechExec workflow, and the admin support team or pre-assigned individuals can process it or act upon instructions. All users within the SpeechExec workflow remain productive creating documentation from anywhere, at any time.

Hardly

SpeechExec Enterprise links all users within the firm providing visibility of what stage their work is at. Fee earners can better communicate with their clients, while admin staff can easily receive assistance when specific teams might be overwhelmed by absences. Managers have a clear view of the work in the queue and current capacity, plus they can easily move tasks between staff to maximise utilisation.

Do you have an in-house IT department?

Yes

SpeechExec Enterprise offers central administration, allowing remote management of users' settings, firmware, updates, backup and restore operations, keeping interruptions at a minimum. The technology is Windows, Citrix, and VMware friendly, fitting in with virtually any business applications and case management systems, saving IT hours of configuration.

No

For companies who outsource their IT, SpeechExec Enterprise can be delivered through the public cloud by an external service provider. The main advantage of this model is the low upfront investment, as new hardware purchases are not required. Solution maintenance is also provided by the supplier and the firm pays monthly fees to use the solution.

Glossary

Cloud Computing

According to the National Institute of Standards and Technology (NIST), cloud computing is defined by the following characteristics:

On-demand self-service. A consumer can unilaterally provision computing capabilities, such as server time and network storage, as needed automatically without requiring human interaction with each service provider.

Broad network access. Capabilities are available over the network and accessed through standard mechanisms that promote use by heterogeneous thin or thick client platforms (e.g., mobile phones, tablets, laptops, and workstations).

Resource pooling. The provider's computing resources are pooled to serve multiple consumers using a multi-tenant model, with different physical and virtual resources dynamically assigned and reassigned according to consumer demand. Its location independence means that the customer generally has no control or knowledge over the exact location of the provided resources but may be able to specify location at a higher level of abstraction (e.g. the EU). Examples of resources include storage, processing, memory, and network bandwidth.

Rapid elasticity. Capabilities can be elastically provisioned and released, in some cases automatically, to scale rapidly outward and inward with demand. To the consumer, the capabilities available for provisioning often appear to be unlimited and can be appropriated in any quantity at any time.

Measured service. Cloud systems automatically control and optimize resource use by leveraging a metering capability at some level of abstraction appropriate to the type of service (e.g., storage, processing, bandwidth, and active user accounts). Resource usage can be monitored, controlled, and reported, providing transparency for both the provider and consumer of the utilized service.

Cloud Deployment Models

Private cloud. The cloud infrastructure is provisioned for exclusive use by a single organization comprising multiple consumers (e.g., business units). It may be owned, managed, and operated by the organization, a third party, or some combination of them, and it may exist on or off premises.

Public cloud. The cloud infrastructure is provisioned for open use by the general public. It may be

owned, managed, and operated by a business, academic, or government organization, or some combination of them. It exists on the premises of the cloud provider. The user has no influence on which datacentre of the provider's globally distributed infrastructure processes his data. However, data processing can often be restricted to certain zones, such as the European Union.

Artificial Intelligence (AI)

In computer science, the term artificial intelligence (AI) refers to any human-like intelligence exhibited by a computer, robot, computer program, or other machine. In popular usage, artificial intelligence refers to the ability of a computer or machine to mimic the capabilities of the human mind - learning from examples and experience, recognizing objects, understanding and responding to language, making decisions, solving problems - and combining these and other capabilities to perform functions a human might perform, such as greeting a hotel guest or driving a car.

Machine Learning (ML)

Machine learning is a branch of artificial intelligence (AI) focused on building applications that learn from data and improve their accuracy over time without being programmed to do so.

In data science, an algorithm is a sequence of statistical processing steps. In machine learning, algorithms are 'trained' to find patterns and features in massive amounts of data in order to make decisions and predictions based on new data. The better the algorithm, the more accurate the decisions and predictions will become as it processes more data.

Natural language processing (NLP)

It refers to a branch of artificial intelligence (AI) concerned with giving computers the ability to understand text and spoken words in much the same way human beings can. NLP combines computational linguistics - rule-based modeling of human language - with statistical, machine learning, and deep learning models. Together, these technologies enable computers to process human language in the form of text or voice data and to 'understand' its full meaning, complete with the speaker or writer's intent and sentiment.

Natural Language Understanding (NLU)

Natural language understanding is a subset of natural language processing (NLU), which uses syntactic and semantic analysis of text and speech to determine the meaning of a sentence. Syntax refers to the grammatical structure of a sentence, while semantics alludes to its intended meaning. NLU also establishes a relevant ontology: a data structure which specifies the relationships between words and phrases. While humans naturally do this in conversation, the combination of these analyses is required for a machine to understand the intended meaning of different texts.

New Work

The concept of New Work describes the new way of working in the global and digital age. The term was coined by the Austro-American social philosopher Frithjof Bergmann and is based on his research on the notion of freedom and the assumption that the previous work system was outdated. This term is used to describe the new way of combining life and work. Due to the availability of the internet and cloud applications, a worker's physical presence in a physical office is no longer necessary for many jobs. Employees seek agile working instead of fixed structures, where they can benefit from more freedom and self-determination. Hierarchies fade as strategic decisions are made more collaboratively.

Speech-to-Text/Text-to-Speech

Technology that enables human speech to be converted automatically into text and vice-versa.

Thin Client Infrastructure

A thin client is a computer that runs from resources stored on a central server instead of a localized hard drive. Thin clients work by connecting remotely to a server-based environment where most applications, sensitive data, and memory are stored. Only a browser

is needed on the client, through which the user can access the components and applications stored in the central server. The thin client approach makes it possible to work largely hardware independent, as all essential steps are carried out on the server.

Workflow Solutions

Workflow is generally defined as a work process - the division of labour in the handling of procedures and processes, for instance. This definition can easily be applied to speech-based document creation. In a document production context, workflow solutions are software that link dictation work, i.e. by the authors, to its transcription, i.e. by typing/admin staff. The digitalisation of this process means that the documentation procedures are intelligently mapped, automated, tracked and optimised.

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Speech Processing Solutions (SPS) is a global technology company based in Austria and the world's leading provider of professional voice-to-text solutions. Products developed by SPS are sold under the Philips brand (Philips Dictation). Nearly five million users worldwide work with Philips Dictation products. The range includes dictation and transcription workflows and speech recognition solutions, as well as input devices that deliver best-in-class speech recording capabilities. These intelligent solutions optimise internal processes, leading to higher productivity, efficiency and profitability.



Nuance Communications Inc. (Nuance) is a technology pioneer with market leadership in conversational AI and ambient intelligence. A full-service partner trusted by 90 percent of U.S. hospitals and 85 percent of the Fortune 100 companies worldwide, Nuance creates intuitive solutions that amplify people's ability to help others.

