

Table S3: Examples of AI used in industry for registration and regulation stages of drug development

AI Technology utilised	Function and subfield of AI on which technology is based	References
<i>OpenMRS software</i>	EHR software that can allow participating countries' regulatory authoring to share medical records amongst each other and best practices of how to apply ML efficiently	1
<i>Layout-Aware Semi-automatic Information Extraction (LASIE)</i>	Prototype NLP-based system that provides semi-automated support on extraction of information from unspecified datasets	2
<i>Medical Writing Automation System</i>	NLP-ML-based product that aids medical writers in preparing, updating, and maintaining required medical documents. It also has the potential to support clinical trial document creation	3
<i>Synchrogenix AI</i>	Capable of extracting information from previous studies on common technical documents, statistical analysis plans, tables, and figures. Then reorganising them into the right sections of the clinical study report	4
<i>Intelligent Machine for Document Preparation</i>	NLP-based system with the ability to search for content using natural language, work without training, search through images and sub-images and integrate into existing workflows of scientists managing documents	5
<i>Clinical Text Analysis and Knowledge Extraction (cTAKES) Clinical Language Annotation Modelling and</i>	NLP-based software for information extraction and finding out solutions from EHRs	6

<i>Processing Toolkit (CLAMP)</i>		
<i>DataCelerate</i>	Cloud-based data-sharing platform that allows for deidentified, anonymised pre-clinical, and clinical data types to be requested and voluntarily shared in a secure and data-compliant way to streamline drug development processes	7

The AI technologies described in this table were obtained through the narrative review. They represent evidence of AI that has been successfully applied in industry or as proof of concept for the application of AI to a specific problem relating to drug development in the registration and regulation stages.

Abbreviations: HER – electronic health record; NLP – natural language processing; ML – Machine Learning

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