AI-ROBOTICS VS COVID19 – REPOSITORY OF SOLUTIONS

Organisation	Country	Title / Commercial name of the solution	Readiness level	Healthcare problem being addressed	How the problem is addressed	Time to deployment (in weeks)	Class of solutions	Short description of the solution's functionalities	Impact	Scalability / Production-deployment capacity	Cost	In which EU Member States is the solution available / can be made available?	People	Funds	Actions	Infrastructure	Other resources / information / solutions needed to address blocking factors for deployment	Links to relevant web pages / references
divVoice	Germany	Voice control in service robots	Solution will be deployable within a few months	prevention from contact with exposed to the virus surface area	we give the medical staff the power to control machinery via voice	16	Disinfection & sterilisation-	We provide hardware for voice control in the robots. Easy to implement.	It will help prevent the spread of virus and germs	Confidential	Confidential	Germany	We need a robot manufacturer, with whom we can start produce the robots. We are already talking to our partners who produce robots			Network with all the people that are going to use this robots or device		https://divvoice.de
PICC SOLUTION	Switzerland	PICC SOFTWARE	Immediate deployment possible (Solution has already been tested or deployed)	Many publications and lessons learned are available. Access to knowledge is not easy, language barrier, amount of reading, time required, urgencies to deal with. Additional information and statistics are available every hour, it is difficult to integrate all this	PICC AI Will make medical knowledge available to professionals needing it now - in 26 languages (with automatic translations) PICC understands any file, document or knowledge base - and translates them to actionable solutions.	Setup time 1 week: load documents - connect to data sources - training core team Deployment time 1 week: training all stakeholders - average training time 30 minutes per user	Diagnostics;Disinfection & sterilisation;Handling of patients;Handling of objects;Other - What if analysis scenarios	Extract crucial knowledge "problems and solutions" from document in any language Identify key opinion leaders Create/maintain medical procedures/protocol Step by step medical training procedures including	People (20 million, minimum): we propose to make a version of PICC available to all people and downloadable from internet. In the APP the user will be able to describe their symptoms. if need be	20 million within 2 weeks	5€ per user/month	All EU Member States;Austria;Belgium;Bulgaria;Croatia;Republic of Cyprus;Czech Republic;Denmark;Estonia;Finland;France;Germany;Greece;Hungary;Ireland;Italy;Latvia;Lithuania;Luxembourg;Malta;Netherlands;Poland;Portugal;Romania;Slovakia;Slovenia;Spain;Sweden						https://www.picc-solution.com/about-us/

				data, information, knowledge, know-how in order to take most appropriate decisions	PICC can connect to any source of information (or data IoT) and feed the collective intelligence Learn from call centers question and answers to enhance knowledge			video Connection to sensors to automatically alert and predict events¨ Record events using smartphone and automatically enhanced collective intelligence Find actionable solutions instantly Create what if scenarios taking into account multiple parameters manage multiple action plans	clinicians or hospitals can be informed. Clinicians (5 million, at least): identify risks, find solutions, record feedback, manage action plan, access to procedures and protocols with regular updates Hospitals (500K, min.): dashboard and statistics, identify most urgent issues Governmental institutions								
Organon Analytics	Turkey	AI-Based virus spread propensity using telco signals	Immediate deployment possible (Solution has already been tested or deployed)	It becomes difficult to follow the infectiousness of the virus, especially in cases without symptoms. For this reason, the locations and people where the virus can spread can be	Mobile phone numbers of people who tested positive on covid-19 are collected.2 main data sources telco companies have that could be used here which are	We propose to use our own AI platform and algorhythms for the solution, which are both ready and operating in enterprises. We've had 8 years of	Limiting the spread of the virus	Solution would help countries to limit the spread of the virus , especially by the people who does not show any symptoms. This scoring would be the base points of	Such a solution could be easily used on all EU countires.	Confidential	Confidential	All EU Member States	Confidential	Confidential	Confidential	Confidential	Confidential	http://www.organonanalytics.com/en

				identified with the help of AI and the mobile phone signals of the infected people. And people who is likely to be exposed to the virus could be tested and prevented from spreading the virus.	base station signals of the phones and social network data (people they had the most contact with).These data sources are processed with artificial intelligence algorithms to create two kinds of scoring: 1. Scoring other mobile phone users on their likelihood to be exposed. 2. Scoring locations/ points that carries the highest risk of exposure	experience working with Turkcell, the biggest telco company in Turkey (has more than 40M subscribers). And we are already processing the same data for different projects within the company. Deploying such a solution would take 0,5 week max for first telco company and 2-3 days for each telco company after the first deployement		the pro active testings or prioritize the resources. Two use cases these scorings could be used are: Identifying the people need to be tested before they show any symptoms and limit the spreading of the virus. Marking the areas that carry the highest risk and warn people in those areas and sterilize these areas if possible.								
Lucentia Lab	Spain	PredIA: A platform for Big Data and Artificial Intelligence	Immediate deployment possible (Solution has already been tested or deployed)	1. Self-diagnosis mobile app for collecting data on citizens 2. Chatbots to capture main concerns of citizens 3. Websites of regional governments and the Ministry in real time	Data processing: All the data collected is processed, optimized and cleaned to make it fully usable by the Artificial Intelligence engines. The system also offers	The platform will be ready in one week. Then, we need one more week to solve all the connectivy problems to gather all the required data. Then, once	Handling of patients	Data processing, data visualization (for health authorities and clinicians) and prediction based on Artificial Intelligence.	Health Authorities, Clinicians and hospitals. Basically, thanks to the automatic connectivity, professionals do not have to waste	Confidential	Confidential	All EU Member States	It is very friendly to be use. Non-expert users can easily use it.	The required funding would depend on the amount and typology of the data to be processed	To adapt the inputs of our processing platform to the provided data in order to make it suitable for these new data sources	Since it is a cloud-based applications, it does not need any physical infrastructure or connectivity. Everything run on the cloud.	A dataset / data stream is required in order for it to be processed (patients data, locations, etc.)	http://www.lucentialab.com

				4. Hospital Health Information Systems to avoid that health professionals have to waste time 5. Communication teleoperators to gather data on mobility 6. Wearable devices as well as geographic location of patients to ensure confinement 7. Blockchain to certify the veracity of patient	interoperability with other healthcare systems, integration with the HL7 RIM v3 protocol. Data visualization: for (i) health authorities and (ii) health professionals. Prediction: The appropriate set of algorithms will be selected to train them and to predict the next foci of contagion and main care needs by area.	the first data is uploaded, we need one more week to choose the appropiate AI algorithm and train it locally. Then the algorithms will be developed in the cloud. In total: 3 weeks.		time to upload data, this data will be automatically uploaded. Then, a real time visualization of data will be shown to the different set of users. A set of alarms will be automatically deployed by the AI algorithms to alert on the defined issues (prevent next contagious focus, distribute health material, etc...)								
Organon Analytics	Turkey	Anomaly Detection on Covid-19 Test Results	Immediate deployment possible (Solution has already been tested or deployed)	To prevent false-positive or false-negatives on test results, an AI based anomaly detection algorithm could be used. False negative on test results would miss the patients who is infected the virus might	The past data on incorrect and repeated test results and patient symptoms in the past would help to identify and predict the results on the new incoming ones. The anomaly detection	We propose to use our own AI platform and algorhyth ms for the solution which are both ready This use case is already developed by us for other lab tests with one of our customers	Diagnostics	It would suggest the test result could be wrong and a re-test is necessary. This way a miss or wrong diagnosis would be prevented.	Such a solution could be easily used on all EU countires in all hospitals or labs where tests took place.	Confidential	Confidential	All EU Member States	Confidential	Confidential	Confidential	Confidential	http://www.organonanalytics.com/en

				continue to spread. Or false positive test results would cause non infected people to stay in quarantine or in hospitals which as a result they could actually get infected.	algorithm would suggest the test result might be wrong and the test should be repeated. This would help to detect the false negative patients and prevent the spread of the virus on these cases.	which is the biggest laboratory company in Turkey.											
Pragmasoft Sp. z o.o.	Poland	Fever Guard	Rapid deployment possible (Still need some testing/adaptation but will be deployable within a few weeks)	Automatic detection of human body temperature anomaly. Detection of infected people with higher temperature symptoms.	We use AI models for human detection, face tracking, body temperature estimation. Our solution consists of thermal imaging sensors and AI models which are able to measure human body and inform in case anomaly is detected.	2-4 weeks	Diagnostics		The solution may be deployed in every hospital or place where detection of human body temperature anomalies is required.	Confidential	Confidential	All EU Member States	Confidential	Confidential	Confidential	Confidential	https://www.feverguard.eu/
contextflow GmbH	Austria	contextflow SEARCH Lung CT & contextflow TRIAGE Lung CT	Rapid deployment possible (Still need some testing/adaptation but will be deployable within a few weeks)	At the early stage of a COVID-19 infection, chest CTs show multiple small patchy ground glass opacities as well as other	contextflow is already coordinating to receive anonymised COVID-19 lung CT data to be used to train and evaluate its	Depending on the hospital's IT infrastructure and which PACS they use, it is technically possible to deploy within 2-4 weeks per	Diagnostics		While it's difficult to give exact figures, we can say that radiologists in general can benefit from	Confidential	Confidential		Confidential	Confidential	Confidential	Confidential	www.contextflow.com TRIAGE trailer: https://www.youtube.com/watch?v=d5OZ2HibFLo SEARCH trailer: https://www.youtube.co

	disease patterns (e.g. consolidation). These lung CT image patterns and distributions of GGO are helpful for diagnosis of COVID-19 infection; contextflow SEARCH and TRIAGE have the function to detect them. Now we move towards disease detection based on the disease patterns – an accelerated task will develop this solution for COVID-19 within this project.	detection algorithms from its Proof of Concept partners and extended hospital network. The first success is obtaining 100 COVID-19 lung CTs from the Humanitas Hospital in Italy. We are also experimenting with visualisations of the distributions of lung disease patterns relevant to COVID-19 and are making these capabilities available to our partners for feedback.	deployment. We have integrations already with the following PACS: Agfa, Sectra, Philips and medigration. The start period would need to be discussed internally given our current workload and priorities with partner hospitals which are already heavily affected.	potentially faster identification of COVID-19 patients (obviously patients benefit from earlier detection to ensure they receive the correct treatment). There is the potential to help more people on a larger scale if multiple hospitals share the same PACS system.				m/watch?v=bZ1oKHj3ug8 LinkedIN: https://www.linkedin.com/company/contextflow/ twitter: https://twitter.com/contextflow_rad