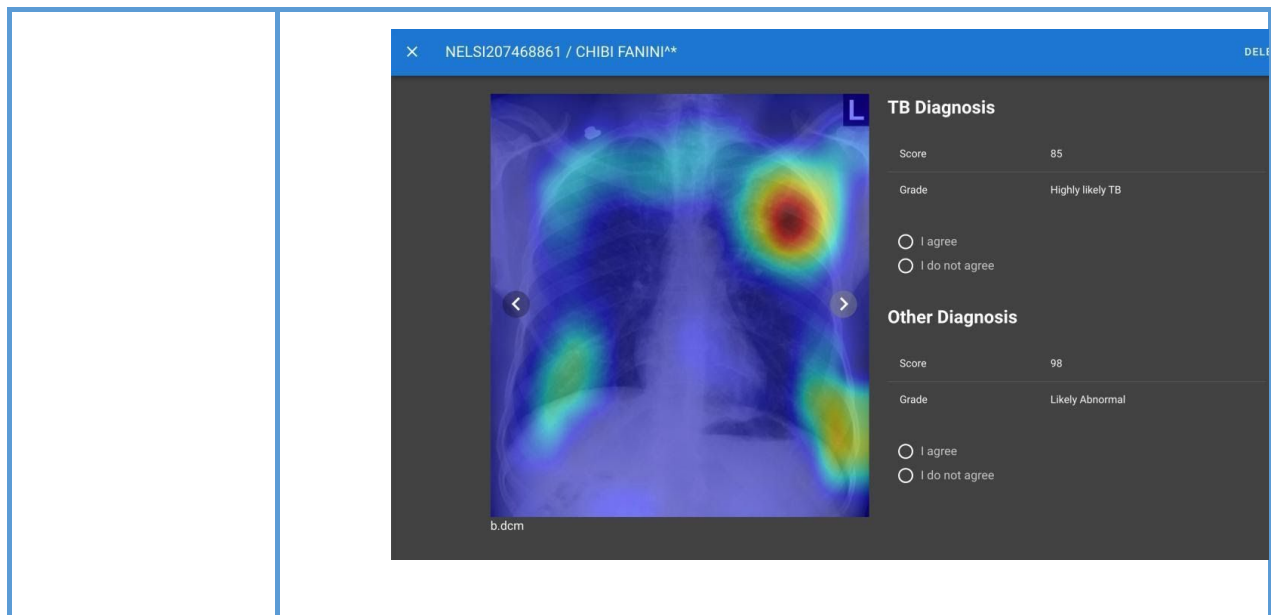


# Product Profile: EPCON

Product name	XrayAME
Company	EPCON
Company HQ	Antwerp, Belgium
Version	1
Website	<a href="https://www.epcon.ai">https://www.epcon.ai</a>
Demo	<a href="https://www.epcon.ai/ai-for-good">https://www.epcon.ai/ai-for-good</a>
Last updated	April 23, 2020
Description	XrayAME is a computer-aided diagnostic for chest X-rays that can be used as screening and triage test to identify TB patients from chest X-rays in under-resourced communities.
Certification	Stage of development: Online web interface: on the market; mobile application: under development (targeted for release in Q3 2020)  Certification: Regulatory certification is aimed for in Q1 2021.
Intended Age Group	18+ years
Target Setting	Primary health centres, Teleradiology companies, Government/public sector, e.g. national TB program.
Current Market	Pakistan, Philippines, South Africa, Brazil, Uganda, Cambodia.
Input	Compatible with any digital chest X-ray machine. Chest X-ray image format: JPEG, PNG, DICOM Chest X-ray type: Posterior-anterior chest X-ray, Anterior-posterior chest X-ray Other requirements: None
Output	Structured report includes: <ul style="list-style-type: none"> <li>- Heat map,</li> <li>- Dichotomous output only indicating whether TB is likely present or likely absent,</li> <li>- Probability score for TB</li> <li>- The default threshold score for "Highly likely of TB" is 75. Any score above 40 is considered "Suspicious". Any score below 40 is considered "Unlikely TB". All score thresholds can be adjusted per application based on the required True Positive and False Positive Rate at a given threshold and for a given patient population.</li> </ul>



<b>Deployment</b>	Online & Offline
Hardware	For cloud solution: a web interface running on a desktop PC or tablet. For offline solution: a device with power supply that hosts a DICOM C-store and local user interface is provided.
X Ray Machine Validation	Recommended: Calibration of score thresholds of the software output based on a reference set (500) of classified images obtained from the given machine and patient population.
Software	Any modern web browser.
Server	The cloud server requires 32 GB RAM, 8 cores and 500 GB disk space. The offline device requires 4 GB RAM.
Integration	EPCON uses DICOM C-store and all other legacy integrations will need to be discussed on a case-by-case basis.
Processing Time	20 seconds

### Data Sharing & Privacy

Server location (for online product)	Current server located in South Africa, but local or national servers can be set up if required.
Data shared with manufacturer?	No DICOM pixel data or metadata are shared with the manufacturers during use of the product.
De-identification (option to de-identify?)	No DICOM metadata is saved by the tool and only the extracted images are displayed. Identifying information printed on the image is not removed.

### Software Updates

Frequency	Quarterly
Cost	<p>Updates are included in the license fee. No cost differences exist between public and private sector.</p> <p>Extra Costs: None. Updates are included in support costs and do not imply additional costs.</p>
<b>Price</b>	<p>Pricing is adjusted in line with project scope and availability of budget. In a commercial setting, we have applied transactional pricing models. For social impact projects we support free CAD readings as part of the CAD4Good program.</p> <p>Public/private pricing difference: Hardware and travel costs are required for the offline solution. Support requirements may be more in offline settings.</p> <p>Upfront installation/set up costs: Travel and installation support of offline devices. Server set-up and running costs for national or local installations. Offline device installation includes hardware and set up costs and range from 1000-5000 Euro.</p>
<b>Product Development</b>	
Method	Supervised deep learning (CNN, RNN)
Training	The product was trained on 10,000 chest X-rays from South Africa, Nepal, China.
Reference Standard	GeneXpert and human reader
<b>Publications</b>	Peer-reviewed publications are not yet available.