CUSTOMER EXPERIENCE

Prospect of echocardiography: Automated processes will be the game changer

Dr Hani Mahmoud-Elsayed is both, an alrounder and an expert in echocardiography. The Senior Clinical Fellow Cardiac Imaging at the Queen Elizabeth Hospital in Birmingham, UK, has numerous qualifications and certifications, is member of all relevant committees and expert for more or less all considerable ultrasound technologies – hard- and software likewise. His focus of interest is in 3D-Echo and interventional 2D/3D-TEE.

Hani Mahmoud-Elsayed, MBBCh, MSc, MD, FESC, FASE. Senior Clinical Fellow, CardioVascular Imaging. Queen Elizabeth Hospital, Birmingham, UK. EACVI / Education - HIT committee

Moreover the native Egyptian doctor is a frequent speaker and presenter at TOMTEC workshops around the globe. Altogether and finally, Hani Mahmoud-Elsayed is the perfect person to talk about current and future challenges in cardiology and how echocardiography can help to solve it.

TOMTEC: Dr Mahmoud-Elsayed, which attributes of an echocardiographic software are most important for you as a clinician to support you in your daily routine?

Dr Mahmoud-Elsayed: As a person who uses a lot of software solutions I found out a few aspects that divides a good software from an excellent and smart software. The most striking and important one is the reproducibility. Nobody would deny that the user depended results are a huge disadvantage of ultrasound. Getting comparable results is crucial for high and steady quality in clinical routine. Therefore a software that could manage to minimize the user dependency in echocardiography due to a high level of automation is going to be game changer. This is why TOMTEC is so beneficial. If you use it in workshop settings and provide participants the same dataset you will get more or less the same results. That is astonishing and definitely unique.

The second distinguishing factor is the user friendliness. As you can imagine, the more steps and clicks you must perform to measure and analyze for example the left ventricle the more time the examination takes. By using TOMTEC you can halve the steps and time needed to get a result. In other words: TOMTEC needs about 50 percent less interactions and user input than other systems. Consequently, analysis time is reduced by 50 percent – because of ease of use and high automation level.

INSTITUTION

University Hospitals Birmingham NHS Foundation Trust (UHB) is one of the largest teaching hospital trusts in England, serving a regional, national and international population.

It includes Birmingham Heartlands Hospital, the Queen Elizabeth Hospital Birmingham, Solihull Hospital and Community Services, Good Hope Hospital in Sutton Coldfield and Birmingham Chest Clinic. It also runs a number of smaller satellite units, allowing people to be treated as close to home as possible. It provides a series of highly specialist cardiac, liver and neurosurgery services to patients from across the UK.

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TOMTEC: Does this saving really have a notable effect in daily routine?

Dr Mahmoud-Elsayed: Of course. Especially if you take another point into account: the automated modifiability. This means that TOMTEC automatically recognize if an examination parameter changes during an analysis. It often happens that a value or characteristic is changing in examination step 6 out of 8. Normally you need to start the whole exam anew. But TOMTECs software is smart and take over the change into steps 1 to 5. This process is so much time saving.

And in the near future we will face an increase demand of medical expertise and longer waiting lists for patients. So we need to find solutions to speed-up the workflows and maintaining high quality and reproducibility at the same time.

TOMTEC: What do you think is different with TOMTECs software? Why is it better prepared to face future challenges?

Dr Mahmoud-Elsayed: I think that is because of the excellent data sets working in the background. The algorithms are following a reasonable anatomy for any data set. This is extremely important. Especially when it comes to dynamic data such as those of mitral valves for preparing a TAVI procedure. TOMTEC gives you dynamic data of the anatomy of the valve which is again not common with other software.

TOMTEC: Let´s talk about Virtual Reality and its use in cardiology. Do you think it is only a toy or does it have real impact?

Dr Mahmoud-Elsayed: For me it was amazing to try the VR glasses. Once you tested it you directly realize in which scenarios you can use it. For me it is very much for involving my patients into the treatment process. It makes clear what the disease is like and how an intervention or medication can help. Patients can dive into their own heart. That has a great impact on the understanding of their problem and will lead to a better therapy response rates. Because once I involve them, most patients are very enthusiastic.

And of course it is a good tool for teaching and for interdisciplinary discussions for example between cardiologists and surgeons. But to be honest, to really plan an intervention you will still need your workstation with your analyzing tools. The VR glasses have an impact in clinical routine but they will not replace other solutions so far.

TOMTEC: The latest innovation from Philips and TOMTEC is the combination of Philips ultrasound machine and TOMTEC software. What do you think about it?

Dr Mahmoud-Elsayed: I already have seen the machines and I think it was a great step to do this. This is very smart. To be honest, Philips was lacking something like that. There was a gap between image quality and software which now is closed. Philips has the best image quality in my opinion. And TOMTEC is the smartest analysis software. That is what I would call a perfect match.

TOMTEC: Thank you so much for the interview!

DR. MAHMOUD IS EXPERIENCED IN THE FOLLOWING TOMTEC APPLICATIONS:

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4D RV-FUNCTION[1]
4D LV-ANALYSIS[1]
4D MV-ASSESSMENT[1]
4D CARDIO-VIEW[1,2]
AutoSTRAIN[1]
AutoLV[1]

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