PRESS RELEASE

A portable guided puncture echographer that improves patient care

- *Tekniker is currently collaborating with Dispositivos Médicos Flechos to develop components required by a device used to perform echo punctures on central venous pathways*
- *The aim of this project is to optimise guided punctures, minimise the number of unnecessary pinpricks and improve health care quality*

[Eibar, 26 May 2020] - Portable echographers are devices that use high frequency sound waves and allow innocuous diagnostic tests to be performed anywhere. More specifically, they provide guidance for health care professionals when puncturing central venous pathways to minimise pinpricks, shorten the procedure and improve health care quality.

In order to optimise this process, **Tekniker**, member of the Basque Research and Technology Alliance (BRTA), is currently collaborating with the firm **Dispositivos Médicos Flecho** to design and integrate the hardware, external casing and firmware required for a new portable echographer that guides puncturing processes involving central venous pathways.

Tekniker's capabilities in terms of electronics and designs focused on precision equipment meet the company's requirements with regard to integrating point of care systems, a key element that gave rise to this collaborative action.

This device will significantly improve patient care as it does not only reduce the number of punctures but also allows hospital care to be delivered in other health care ecosystems and this will improve quality of life for patients.

The development of the project will follow two tracks. Firstly, a casing will be designed to accommodate all the electronic components, the ecographic transducer and, if possible, space will also be left to incorporate a base charger. During this stage, Tekniker will provide

any technical advice that is needed to build prototypes prior to moving on to serial production and will provide assistance when searching for potential suppliers.

Secondly, hardware will be designed and development work will focus on power and connectivity elements, on integrating the device in a CPU and providing it with an operating system that is compatible with the probe and all ultrasonic viewing elements. Additionally, management actions will address, among other things, the device's power supply, graphic screen and temperature sensor

This stage of the project will also address the issue of firmware development to enable and integrate all hardware elements for the purpose of building a functional prototype that can be used as a basis for the end product. This collaborative action also covers the support to be provided with regard to integrating the application software developed by the firm Dispositivos Médicos Flecho.

As regards the outer casing, the centre will design, integrate, manufacture and assemble the casings for three prototypes to be used as models to test and validate functionality and ergonomy.

The amount of know how accumulated by Tekniker in processes of this kind will allow the organisation to provide all the documents required for product certifications and also identify the most suitable suppliers in terms of purchasing components and easing the industrialisation process.

Thanks to this device, patients will lead totally normal daily lives as the number of non-urgent trips to hospitals and pinpricks in each diagnostic test will be reduced.

Concerning Tekniker

With nearly 40 years of experience in applied technology research and technology transfer to companies, Tekniker has reached a high degree of specialisation in four major areas (advanced manufacturing, surface engineering, product engineering and ICTs), which has allowed the organisation to place its cutting-edge technology at the disposal of customers to meet their requirements. The technology centre is a member of Basque Research and Technology Alliance (BRTA).

Further information:

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