



## EPS Project proposal

<p><b>Name:</b> Design of an ad-hoc adaptable sensor system for the 6MWT</p>
<p><b>Introduction:</b> (Explain the framework of the project and the problem to be solved)</p> <p>The Six Minute Walking Test (6MWT) is a test physicians run to know desaturation level in patients with hypoxia. Some diseases make lungs to perform different than expected driving a lack of oxygen on patents strongly impacting on their daily activities.</p> <p>This test consists on measuring patient's desaturation (using a pulsi oximeter) when walking through a 30 meters path long for 6'. Patients are manually monitored on each round on the 30 meters path and the medical staff takes notes manually about O2 saturation and heart rate.</p> <p>The CRAAX team in the scope of a start-up with the Hospital Clinic in Barcelona has already developed a solution basically aimed at "digitalizing" the traditionally manual 6MWT. The proposed system is now running a severe testing process at the Hospital Clinic what is driving the need to fix some issues. One of them is the static design current solution implements for the sensor support. Some efforts must be invested towards a smooth design facilitating an optimized sensor placement. Indeed, this will be the main objective of this project.</p>
<p><b>Project Brief:</b> (Describe the project specifying the main objective and its outcomes, design specifications, etc...)</p> <p>The project should deploy the next steps:</p> <ul style="list-style-type: none"><li>- understanding how the proposed system works</li><li>- revisiting the sensor technology already in use and analysing potential improvements</li><li>- define what the requirements are for the support the sensors are deployed into</li><li>- design the sensor support</li><li>- print the sensor support</li><li>- build the final solution including the sensor, the support and the interface (hw and sw) with the current system</li></ul> <p>The final outcome should be the new sensor support integrated into the current solution.</p>

### Company

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**Project team:**

<u>Number of students:</u> 4-5	
<u>Students speciality:</u>	<input type="checkbox"/> Business Management <input checked="" type="checkbox"/> Mechanical engineering <input type="checkbox"/> Electrical engineering <input checked="" type="checkbox"/> Electronics engineering <input type="checkbox"/> Chemical engineering <input checked="" type="checkbox"/> Computer engineering. <input type="checkbox"/> Telecommunications engineering. <input checked="" type="checkbox"/> Design. <input type="checkbox"/> .....