

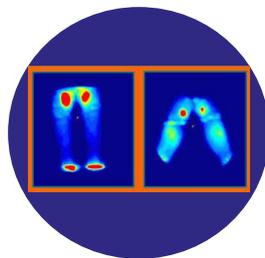


Perch Dynamic Solutions

Sit up and take note!

High tech research backs up posture perfect invention.

School children will not be so inclined to slump forward onto the desk or plead for another toilet break to relieve the tension of prolonged periods of sitting thanks to Perch Dynamic Solutions innovation for comfortable learning.



The Need

Simon designed and built an ergonomic school chair prototype with a patented flexible seat pan. Higher than conventional seats, the dynamic design moves constantly as if the students were riding a horse. The concept attracted expressions of interest from universities and manufacturers in Europe and US. The design concepts needed to be scientifically validated and the chair needed to be tested to world-class standards.

The Solution

MEDIC, CIT's Medical Engineering Design and Innovation Centre, captured changes in the posture and movement of the upper body in both primary and secondary school children. This was achieved by using an eight camera VICON 3D motion analysis system. The pressure distribution was recorded under sit bones on a standard school chair, and on an ergonomic Perch chair, using Xsensor interface pressure mapping system. The study demonstrated that the new design resulted in: improved, upright sitting position, significant reduction in

back and neck strain, more even distribution of pressure on the seat pan and no pressure concentration under the knee joints.

Critical Success Factors

The Enterprise Ireland Innovation Voucher Scheme supported the collaboration. MEDIC's world class testing facility could accurately analyse motion and human posture and MEDIC had the professional capability to complete the research. Simon was familiar with CIT's system of support and there was a good working relationship between Perch and MEDIC. MEDIC recruited suitable candidates for the testing and achieved a rapid turn-around for the project. A rigid and defined set of parameters were developed for the project.

Benefits of the Engagement

Following the results of this project, Perch were able to quantify some of the benefits of using their furniture. This helped Perch's progression towards signing contracts for the licencing of their technology to partners in Denmark. MEDIC gained valuable learning through this opportunity to apply their pressure mapping technology.

"We value MEDIC intervention exceptionally highly because of the level of professionalism, approachability, capability and state of the art equipment. We hope to continue this relationship and envisage returning shortly for a follow up experiment."

Simon Dennehy,
Perch CEO.

"A good relationship was built between Perch and MEDIC. Experiment results were very compelling (and favourable for Perch) - this reflected well on us."

Pat O'Connor,
MEDIC Centre Manager

