

Innovative Research Solutions with Industry

Equine

CLIENT:
Equiniche Sciences

AREA:
Polymer Engineering



Developing new equine product and supporting business growth

Equiniche Sciences aims to develop and bring to market innovative solutions based on sound science and practical knowledge for the care and management of horses.

Equiniche Sciences, a participant start-up on Athlone Institute of Technology's Enterprise Programme (now *New Frontiers*) in 2011, was established by Dr Michelle O'Connor, a Veterinary Physiotherapist, to develop a new way of feeding horses in training – the Harmony Equine Feeder (www.harmonyfeeder.com). Michelle had a concept for a hay feeder that would enable horses in a stabled routine to eat at ground level and throughout the day - thereby solving physiological and behavioural problems associated with intermittent feeding and eating in an unnatural position.

The challenge for AIT's Centre for Industrial Services and Design (CISD) was to design for manufacture a plastic hay container incorporating a rubber mesh, which would control the delivery of hay and allow the horse to eat in an anatomically comfortable and correct head and neck position at ground level – thereby mimicking the natural grazing position.

CISD provides a range of services including rapid prototyping, mechanical testing, chemical analysis, product design and engineering – with a particular focus on design for manufacture and assembly techniques to provide a seamless transition from



The Hayfeeder product developed

CAD to finished product with minimal risk. CISD hosts extensive facilities to design, build and test components using 3D CAD software, in-house high spec 3D printers, vacuum casting equipment and a full suite of mechanical and chemical analytical laboratories. CISD has supported 230 companies and completed over 1,000 projects in the last seven years. →

Equiniche Sciences | www.equinichesciences.com

MIRC
Athlone Institute of Technology
Athlone, Co. Westmeath, Ireland.

T: +353-87-686 2399
F: +353-90-644 2570
E: michelle@equinichesciences.com



→ Equiniche Sciences was a participant start-up on the Enterprise Programme at AIT's Midlands Innovation and Research Centre (MIRC) in 2011. The Programme (now New Frontiers) provides entrepreneurs with the business skills, networks, facilities and supports necessary to navigate the business start-up process from concept to successful commercialisation.

A key objective of the MIRC is to leverage the research and development resources of AIT to support innovative start-ups. The MIRC's message to potential entrepreneurs is: "If you have an innovative business idea, AIT has the resources to both develop your product and to support you in developing your business and bringing your product to market."

CISD designed and developed a prototype of the Hayfeeder. The main plastic parts were designed for the rotational moulding process and the rubber parts using the compression moulding process. 3D CAD models were built using Pro-Engineer software. A concept design was also drafted in 2D for a patent application. Work then focused on developing the rubber mesh system in terms of both material and configuration to ensure

durability, safety and controlled access to the hay. The feeder unit was further developed and assembly and fixing details defined. Final design of the Hayfeeder by CISD enabled Equiniche Sciences to purchase tooling for the components, and initial units to be manufactured.

The work by CISD on behalf of Equiniche Sciences was funded by two Enterprise Ireland Innovation Vouchers. Supported by the MIRC, Equiniche Sciences was awarded €50,000 Competitive Start Funding from Enterprise Ireland in 2012 to test the market for its product and progress its business plan for the global marketplace.

The Harmony Hayfeeder was launched onto the Irish market at the Equus Live Exhibition held in Punchestown in November 2013 where it won the inaugural Innovation Award. Supported by the MIRC and Enterprise Ireland, a marketing strategy involves attendance at trade shows and exhibitions to provide exposure to the broader equestrian community in Ireland, the UK and Europe. The Harmony Hayfeeder has the potential to be a global product with significant equine populations in Europe, the US, Japan and Australia. ■

TESTIMONIAL

Dr Michelle O' Connor
Equiniche Sciences

"AIT was fantastic. Conor Hayes at CISD brought the Harmony Hayfeeder from concept to prototype to final design for manufacture. We plan to continue to work with CISD on future projects. The Enterprise Programme gave us the focus, time and facilities to get started while the MIRC and Enterprise Ireland continue to support us in building our capabilities and securing markets."



Dr James Kennedy
**CENTRE FOR INDUSTRIAL
SERVICES & DESIGN**

Athlone Institute of Technology
Dublin Road, Athlone,
Co. Westmeath, Ireland
T: +353-90-6483028
E: jkennedy@ait.ie

Michael Lonergan
**MIDLANDS INNOVATION
& RESEARCH CENTRE**

Athlone Institute of Technology
Dublin Road, Athlone,
Co. Westmeath, Ireland
T: +353-90-6471882
E: mlonergan@ait.ie