Over 1.7 million people suffer from limb loss in the US, and this number increases by 185,000 each year. One method of attaching prosthetic limbs to the user is by a suction socket. But since the volume of the residual limb changes over time, even during the day, the socket begins to cause discomfort and pain. Some techniques to overcome these drawbacks involve the use of foam or gel liners, lotion on skin before donning the socket, or cotton/nylon socks. None of these methods are able to prevent the ulcers and blisters that form.

Researchers at UTARI have developed a bubble actuated padding system that uses sensors to manage pressure and shape of the surface that would interact with the residual limb. The system works automatically and while in use. The dynamic surface is made up of a series of fluid filled bubbles whose pressure is individually monitored and controlled. The technology can also be used in hospital beds and wheel chairs to prevent pressure sores.