

## Name of the Technology/Product : “Electronic Knee”

<b>Laboratory Name</b>	CSIR-CSIO Chandigarh
<b>Brief Profile of Technology/Product</b>	<p><b>Electronic Knee</b> is an intelligent prosthetic device for transfemoral (above knee) amputees. For adaptive gait, the knee adapt to patient movement style in real time with the integration of indigenously developed electro-goniometer, force resistive sensor and accelerometer in order to control the swing phase dynamically. The Electronic Knee consists of sensor like Electro-goniometer and Force Resistive Sensor and Accelerometer as sensor mechanisms. Knee design is based on controlling a swing phase using a pneumatic cylinder mechanism attached with the embedded control mechanism to its control its flow control valve. The required energy to extend the knee into new gait cycle is provided by a spring mechanism. Three Variant (Electronic Sensor, Remote and Mechanical) of knee is developed. The cost of developed Electronic Knee about Rs. 40,000/- which is low as compared to imported knee which starts at about 5 lakhs.</p>
<b>Returns/Benefits</b>	
<b>Validation Level</b>	Field trials were performed on Above knee Amputees.
<b>IPR Status [also indicating the status of the patent (if any) in 2015]</b>	Nil
<b>End product price (if not available, estimated price)</b>	Rs. 40,000/- (Calculated on the basis bill of material)
<b>Technology/Product Collaborator</b>	---
<b>Relevance of Technology in present times</b>	Relevant
<b>Similar technology/product developed</b>	Imported products from companies, Ottobock and Endolite are available but very expensive.

Picture of the technology/product (if any, with good resolution)

