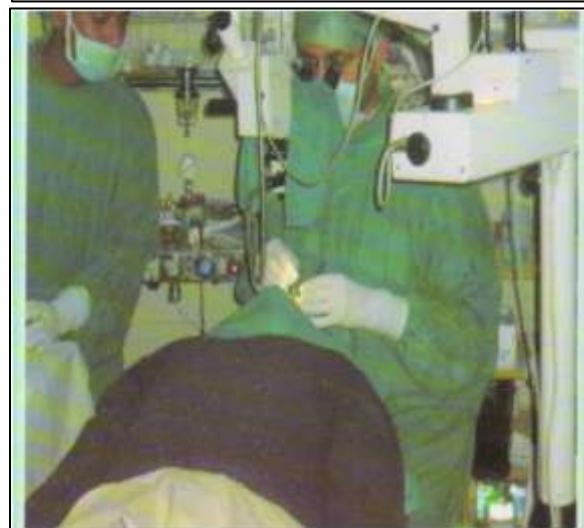


## Surgical Microscope for Eye Surgery

<b>Laboratory Name</b>	CSIR - Central Scientific Instruments Organisation, Chandigarh
<b>Brief Profile of Technology/Product</b>	<p>Surgical Microscope is a medical instrument to assist the doctor for cataract surgeries and many other eye related decease. It is used for precision surgical applications like Ophthalmic diagnosis, keratoplasty, keratoprothitics and cataract operations. For clear visualization of the operating field so as to enhance the surgeon's view of the microscopic structures, the design is on the principle of telescopic magnifier and four steps magnification are achieved by using two telescope of desired power in direct and reverse direction. The fifth step magnification is achieved by direct viewing. According to the technical requirement large working distance at relatively low magnification is maintained.</p> <p>The opto-mechanical design has been perceived specifically to meet the requirements of eye surgical applications like keratoplasty, keratoprothitics and cataract operations. With upgraded magnification, lighting system, incorporating recording feature through camera and real time display, improvements in aesthetics, etc., its advanced version could be offered in a short time.</p> <p>It is a portable surgical microscope with specialized opto-mechanics in the form of a motorized focusing control by foot paddle, for eye surgeries, having the following special features:</p> <ul style="list-style-type: none"><li>• Sufficient large working distance between operation field and Microscope</li><li>• A true stereoscopic observation for reliable acquisition of three dimensional structure of the object field</li><li>• Good resolution with excellent contrast.</li><li>• Excellent and uniform illumination of the field of operation and also in depth of cavity</li><li>• Position and diameter of the Exit Pupil to portrait an easy and reliable acquisition of entire field of operation at different angles also for spectacle wearers</li></ul>

	<ul style="list-style-type: none"> <li>• Wide magnification range to guarantee a rapid change over from low power to high power for detail observations</li> <li>• Different magnifications range can be achieve using indexing objectives</li> <li>• High and safe illumination using a fiber optical system and cold light source</li> <li>• Equipment is mounted on steady rolling wheels with locking mechanism</li> </ul>
<b>Returns/Benefits</b>	<p>The surgical microscope is primarily used for ophthalmic eye surgeries especially for the cataract operation by the ophthalmologists.</p> <p>It can be offered to hospitals in rural, sub-urban areas, to start with, at a very competitive cost with state of art features followed by customers from other sectors.</p>
<b>Validation Level</b>	After having number of clinical trials, the technology has been transferred
<b>IPR Status [also indicating the status of the patent (if any) in 2015]</b>	--
<b>End product price (if not available, estimated price)</b>	--
<b>Technology/Product Collaborator</b>	<ul style="list-style-type: none"> <li>• Department of Science &amp; Technology</li> <li>• SAP Healthcare Equipments Private Limited, Kolkata</li> </ul>
<b>Relevance of Technology in present times</b>	It is a portable surgical microscope with specialized opto-mechanics in the form of a motorized focusing control by foot paddle, for eye surgeries. It can be offered to hospitals in rural, sub-urban areas, to start with, at a very competitive cost.
<b>Similar technology/product developed</b>	--

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



Surgical microscope being used for actual surgery at hospital