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# WATCHWITZ LSG Streamer

HIGH DEFINITION LIVE SURGICAL TRANSMISSION & BROADCASTING



**HD**  
HIGH DEFINITION



*"An integrated solution which takes care of all your  
high definition transmission and broadcasting  
requirements"*

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**LSG Streamer** is unique transmission & broadcasting solution for your operation theater (OT). Transform your OT to deliver interactive surgeries, virtual proctoring sessions along with one way broadcasts to deliver HD+SD contents to worldwide audience

## COMPLETE SETUP TO MAKE OT LIVE FOR INTERACTION



### Conduct interactive live surgery sessions

- **Fully user customizable**
- Connect to expert surgeons across globe for live interaction from your Operation Theater
- You can add multiple camera inputs into system which includes external as well as surgical cameras, allowing perfect view of surgeries
- Avoids chaos in OT and disturbance for surgeon
- System being interactive proctor can ask questions give his valuable inputs like in any international medical conference
- **Works on high speed internet connection**
- Demonstrate complex surgeries and procedures and get expert advise Hi-Tech infrastructure designed specifically keeping in mind surgeons requirements



### Live 2-way interactive transmission for

- |                            |                              |                                    |
|----------------------------|------------------------------|------------------------------------|
| ▲ Bariatric Surgery        | ▲ Hernia Surgery             | ▲ Pediatric Surgery                |
| ▲ Breast Surgery           | ▲ Laser Surgery              | ▲ Plastic & Reconstructive Surgery |
| ▲ Colon and Rectal Surgery | ▲ Microscopic Surgery        | ▲ Robotic Surgery                  |
| ▲ Endocrine Surgery        | ▲ Minimally Invasive Surgery | ▲ Thoracic Surgery                 |
| ▲ General Surgery          | ▲ Neurosurgery               | ▲ Trauma Surgery                   |
| ▲ Gynecological Surgery    | ▲ Orthopedic Surgery         | ▲ Urology Surgery                  |
| ▲ Hand Surgery             | ▲ Ophthalmological Surgery   | ▲ Vascular Surgery                 |
| ▲ Head and Neck Surgery    | ▲ Outpatient Surgery         |                                    |





## Features

- Cost effective technology**
  - Cost effective technology works on existing internet connection (works on 3 to 4 mbps upload)
  - Conduct Live interactive sessions and Surgeries from your operation theater
  - No recurring costs of transmission, connectivity or technology for usage.

- Multiple HD+SD Video inputs**
  - Up to 2 Video inputs
  - All HD / SD / OT / Surgery Cameras supported

- Network Compatibility with**
  - Internet
  - LAN/WAN
  - VPN
  - Fiber Optic (point-to-point)
  - Wireless/4G

**Supported all standard A/V Input Types**

- Direct Video Camera input
- Any Audio Mixer/Amplifier input
- HD/SD Audio-Video Mixer Input
- HD/SD Audio-Video Recorder Input

**Built-in Video Digital Mixer (HD / SD)**

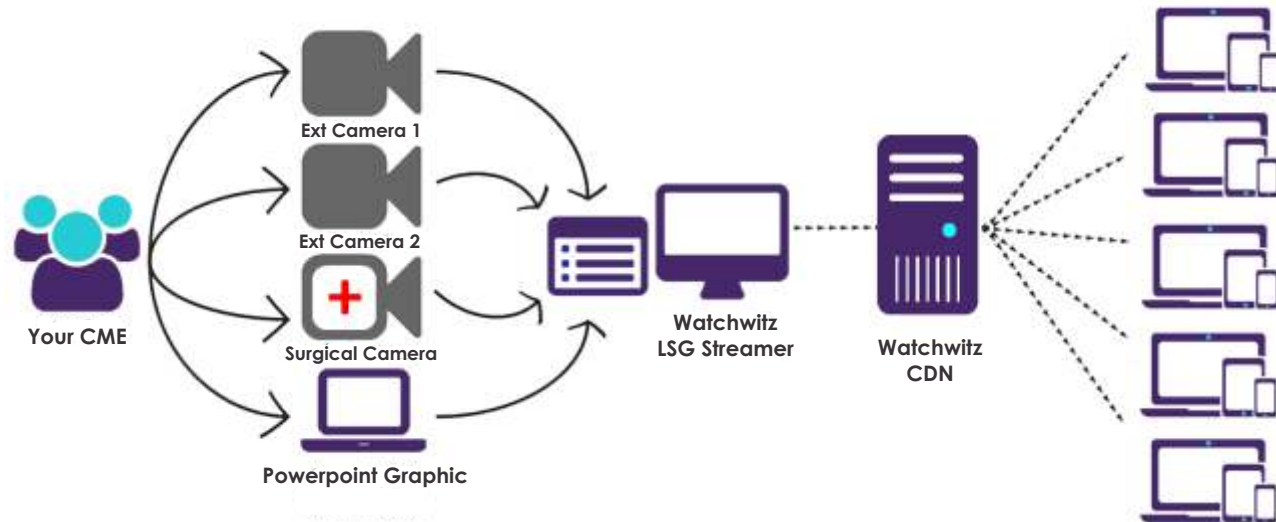
- Built-in video mixer does not require hardware mixer for mixing video inputs HD and SD capable
- Mix surgical camera inputs with external camera views in real-time
- Real-time Video Switching & PIP modes
- Support for scrolling text marquee



- **Built-in live broadcasting system** for delivering one-way live broadcast of entire session to large number of audiences
- **Intelligent bandwidth detection & suggestion**
- **Multiple resolution support** to enhance user experience Smooth video experience (No buffering)

- **Scalability on CDN** available for thousands of number of participants Reports of visitors participating in broadcast
- **Detailed log including user information & IP address etc.**





#### Live Broadcast Features:

- ⚡ Live webcast for up to 1000 online viewer devices using WTPC CDN Servers
- ⚡ Compatible to Windows, Mac, Linux, Android and Smartphone devices
- ⚡ Live Broadcast Setup Contents
- ⚡ Live Transmission Unit – HD /SD
- ⚡ Live Video Encoder
- ⚡ Live Media Recorder
- ⚡ Multi-bitrate support
- ⚡ Multiple broadcast resolution support based on viewer bandwidth
- ⚡ Newsletter facility for up to 20,000 doctors (optional)
- ⚡ Payment gateway integration for paid broadcast (optional)
- ⚡ Complete Technical setup of live webcast including server resources, transmission system, implementation team, online integration and back-office support

#### Useful for:

- **Virtual proctoring**
- **Live HD+SD transmission**
- **Live interactive surgeries**
- **Live Workshops & CMEs**
- **Live broadcasts**

**Virtual proctoring** is a next generation tool of education where the teachers from across the world can be live and interactive with the surgeon performing a surgery and give suggestions and mentoring, virtually at real-time.

The virtual proctoring initiative of **LSG Streamer**, enables proctoring during the practice of new surgeons on mannequins or animals, to be conducted in presence of world renowned eminent surgeon.

The process of Virtual Proctoring also resolves the problem of learning due to unavailability of cadavers or animal labs or simulators. Through Virtual Proctoring not only you get better insight into live surgical procedures but also the performing surgeons get better prospects of becoming future mentors.



**The Learning curve of surgical procedure starts with introduction to the procedure in different conferences & CME's & ends with handholding & proctoring by experts.**



Imagine, an eminent surgeon who usually in regular proctoring process would be beside you in OT, is now 2000 miles away but still live as though besides you. This initiative entails interested people to get enrolled. The **LSG Streamer** would get in touch with interested candidates & explain the process of registration to the virtual proctoring.



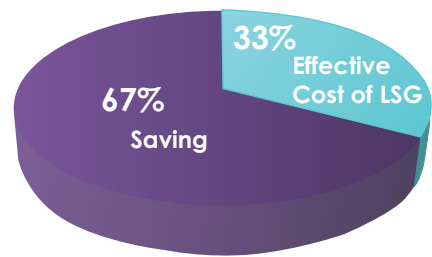


# WATCHWITZ LSG Streamer

## Implementation Cost Analysis (All prices in INR)

Daily surgery recording in HD	Days	Rate	Commercial Cost	Savings	Effective Cost of LSG	Saving
@ 5 days a week	261	10000	2,610,000	1,760,000	32.57%	67.43%

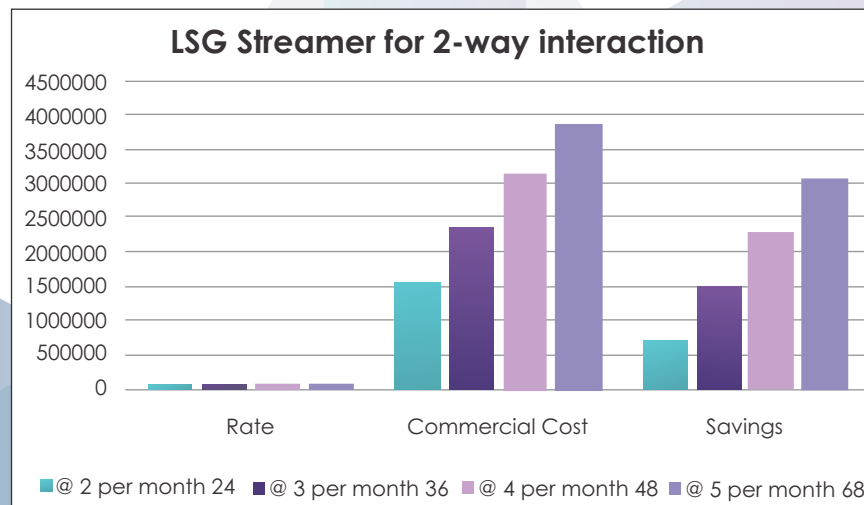
### Recording Surgeries @ 5 days a week



LSG Streamer implementation for daily recording of surgeries can save upto 67% on commercial cost within a year. Above statistics is based on five days per week surgical sessions.

Live HD transmission with 2-way interaction	Days	Rate	Commercial Cost	Savings	Effective Cost of LSG	Saving
@ 2 per month	24	65000	1,560,000	710,000	54.49%	45.51%
@ 3 per month	36	65000	2,340,000	1,490,000	36.32%	63.68%
@ 4 per month	48	65000	3,120,000	2,270,000	27.24%	72.76%
@ 5 per month	60	65000	3,900,000	3,050,000	21.79%	78.21%

LSG Streamer implementation for Live transmission with 2-way interaction of surgeries can save upto 78% on commercial cost within a year. Above statistics is based on two to five days per month live surgical transmissions.



# WATCHWITZ LSG Streamer

## Feature Comparison Matrix

	LSG Streamer 1.1 MXB	LSG Streamer 1.1 MXW	LSG Streamer 1.1 MXM
HD/SD Video Inputs	2	2	2
HD Live Transmission	✓	✓	✓
2-way interaction from OT	✓	✓	✓
Echo cancellation of Audio (AEC)	✓	✓	✓
Recording Feature	✓	✓	✓
Digital Mixer included	✓	✓	✓
Picture in Picture Video Effects	✓	✓	✓
Up Scale SD resolution to HD	✓	✓	✓
Intergrated broadcast encoder	✓	✓	✓
CDN connectivity for 1-way broadcast	✓	✓	✓
Transmit Pre-recorded Videos	✓	✓	✓
Mix Images & Scrolling Text	✓	✓	✓
Custom Module Integration	✓	✓	✓
Modular OT Compatible	✗	✓	✓
Mobile Unit	✗	✗	✓



"Amazing technology, very cost effective. We had fantastic experience of interaction with 5 different OT's while ISCP World Congress of Coloproctology. My warmest thanks for all your hard work and outstanding contributions"

- **Dr. Prashant Rahate** (Organising Secretary, WorldCon2014)

"I would recommend this technology to doctors who want to educate because of their ability to handle multiple OT's, prompt working & delivery & also the system works on internet, so wider reach to audience."

- **Dr. Shashank Shah** (Director, Lapro-Obeso Center, Pune)



"We had amazing experience as it can work on air. We did our first live broadcast of surgery on 4G connection"

- **Dr. Sanjay Kulkarni**  
 (Hon. Asso. Prof. of Urology, K.E.M Hospital, Pune)

"The webinar transmission was seamless, followed by many surgeons worldwide and was a huge success"

- **Dr. Madan Kapre** (Organizing Chairman FHNO 2015)



"The whole experience of the urology conference and the technology is impeccable, the content and the quality was very good, expecting more conferences of this level in future"

- **Dr. Mahesh Desai**  
 (Medical Director & Managing Trustee, MPUH)



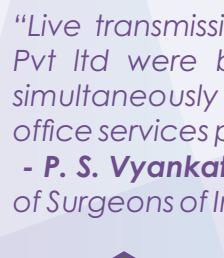
"We had a good time demonstrating variety of cases and you can see the team of Watchwitz Technologies Pvt Ltd who worked very hard for transmission of these procedures."

- **MGWO Padmashree Dr. Nageshwar Reddy**  
 (Chairman, Asian Institute of Gastroenterology).



"Very innovative technology, excellent teamwork. We did our national level CME on Hernial updates in multiple Operation theatres with an ease."

- **Dr. Dilip Gode** (National president of the Association of Minimal Access Surgeons of India, V.C., DMIMS, Wardha)



"Live transmission service provided by Watchwitz Technologies Pvt Ltd were brilliant. Two operation theatre connected live simultaneously were connected to 4 countries, also the back office services provided were also upto the mark."

- **P. S. Vyankatesh Rao** (Governing Council Member Association of Surgeons of India)



"It works perfectly well even on normal broadband. We had wonderful experience of High quality video and crystal clear audio in every interaction"

- **Dr. Roy Patankar** (Joy Hospitals Mumbai)

"It was indeed a pleasure to be a part of the Kread's 'Recent Advances in Urology' .It has been a nice experience demonstrating the cases and getting them webcasted to other countries. The arrangements, telecast, the quality of audio visual was brilliant. I am sure the delegates have benefited by receiving high quality surgical education without leaving their doorsteps."

- **Dr. Pankaj Maheshwari** (Fortis Hospital, Mumbai)



and many more...