medVC
telemedicine system

REMOTE EDUCATION

Contact:

contact@medvc.eu

www.medvc.eu

European Funds for Smart Economy | Republic of Poland | Co-Funded by the European Union

Operating room in your lecture hall and conference room

Interactive audio-video from the OR

3D VIDEO

MEDICAL DATABASE

MEDICAL AI

Telemedicine for OR integration

medVC

IDEA

medVC

- **TELEMEDICINE**
  videoconferencing sessions
  with the operating rooms

- **3D**
  broadcast from the ORs
  also in 3D

- **AI**
  AI support for various telemedicine
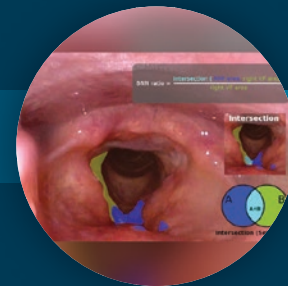 applications integrated into the
  medVC system

- **WebRTC**
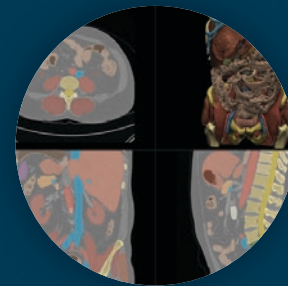 interactive connection to the OR,
  from anywhere and any device

Integrated AI modules into the medVC system

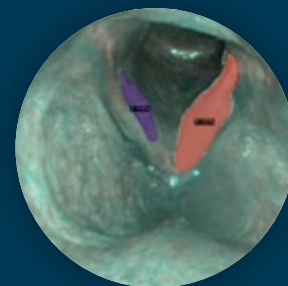medVC utilizes dedicated AI modules for a variety of medical cases:

AI-powered **RRP Extent Quantification**

(Buchwald et al., in press)

Segmentation with **TotalSegmentator** - for non-contrast chest CT scans, returns radiomics features per organ

Anomaly detection in aerodigestive tract -

(Doctoral dissertation of J. Nowak, MSc)

GOAL

new opportunities of interactive collaboration & medical education for professors, doctors
nts

medical communication
nge of experiences

TECHNOLOGY

network bandwidth

FUNCTIONALITY

medVC SYSTEM

Developed for:

- Medical University
- Hospital
- School of Surgery
- Emergency Department
- Medical Association
- Medical Conference

◦ **Live audio-video telepresence** from operating rooms, doctors' offices and conference rooms

◦ **Live streaming** to the Internet for laptops, PCs, tablets and smartphones - available for up to thousands of viewers at the same time

◦ **Pesonalization** of deployment (logo, room naming, Internet domain) & dedicated support

◦ High standards of **security and encryption**

◦ Possibility to send multiple high resolution medical video streams from the operating room at the same time

◦ **Pausing** the video stream and **telestration** (drawing on the video) - each participant of the telemedicine session can make markings visible for all other sides

◦ Simple and user-friendly touch screen control

◦ **Recording** of telemedicine sessions for students, doctors and documentation

◦ **Marking** of important moments of surgeries with timestamps

◦ Support for numerous video sources to connect all video devices in the OR

◦ **Integration & compatibility** with any medical device providing a video signal

◦ Integrated on a medical cart for easy use across ORs

medVC is designed
specifically for medicine

Fully customizable to the needs
of a specific operating room

medVC is compatible with:

- medical cameras,
- microscopes,
- endoscopes,
- C-arms, surgical robots,
- other medical video devices, both in 2D and 3D

medVC	OTHER SYSTEMS
Ultra-high medical video quality	Lower video quality
Multiple videos from the OR	1 video from 1 participant
Live video pausing	No pausing
Telestration - drawing on any video	Drawing on screensharing only, not on medical video
Dedicated secure solution for medicine	Cloud-based consumer market solution
Personalization of deployment: logo, name, domain	No personalization or limited personalization
Functionality customization upon request	Off the shelf product – no customization
Integrated recording with automatic upload to secure storage	Recording with access using public cloud
Integrated streaming for events	No integrated streaming
Dedicated support	Consumer market support level

medVC system

I. Operating rooms

software + hardware solution =
customised medical cart with terminal
to meet the needs of any specific OR

software only solution
for OR integration

medVC OR Pro

- Main unit (10x 12G-SDI/DVI/HDMI video inputs for medical devices), supporting 4K signals up to 2160p60

- Overall FullHD PTZ camera

- Medical touch-screen monitor

- Integrated audio-video devices

- SDI/DVI/HDMI video output for additional display

- Wireless headset microphone

- Loudspeaker

- Additional equipment according to needs

medVC OR Smart terminal

- All-in-One computer (4x 3G-SDI video inputs for medical devices)

- Can transmit up to 2 video images simultaneously in FHD quality

- Medical touch-screen monitor

- Built-in webcam

- Wireless headset microphone

- Loudspeaker

- Additional equipment according to needs

Software-only version for Operating Room Integrators

- No separate system – seamless integration with the OR system

- Video from integrated medical video devices

- Display on OR-integrated monitors

- Deployment on-premise or in the cloud, according to customer requirements

- Lower costs of a deployment

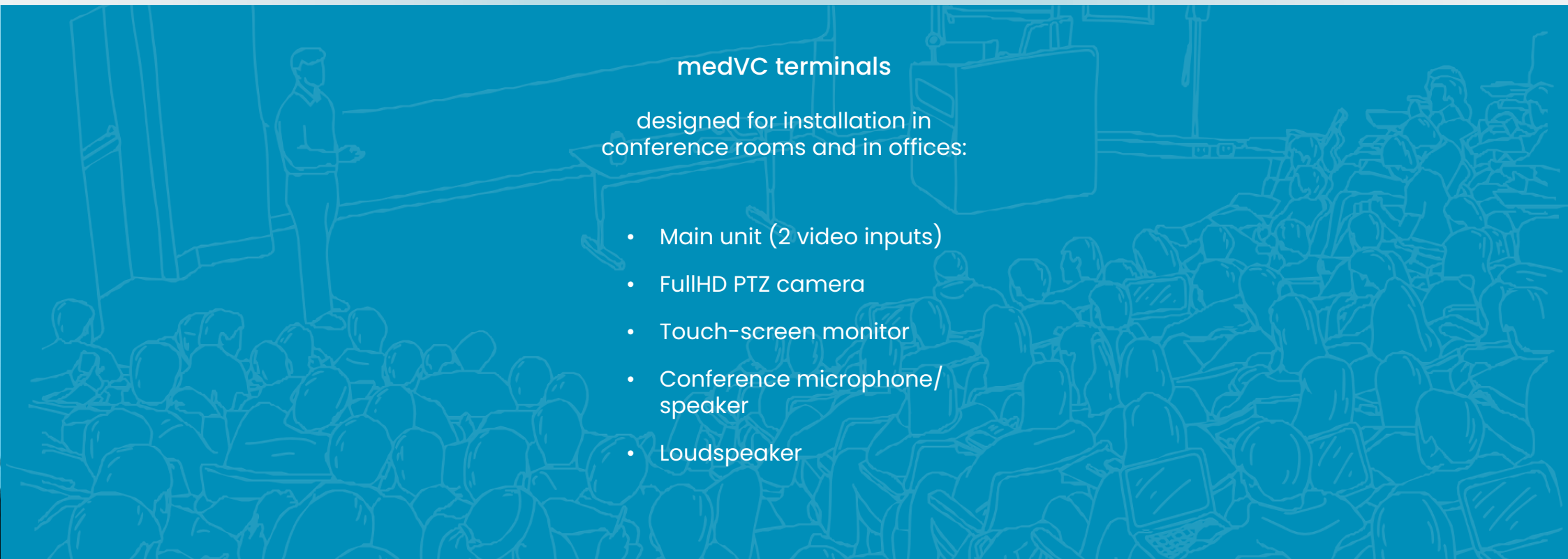- Help from medVC with the hardware specification for each deployment

medVC system

II. Conference system

medVC terminals

designed for installation in conference rooms and in offices:

- Main unit (2 video inputs)
- FullHD PTZ camera
- Touch-screen monitor
- Conference microphone/ speaker
- Loudspeaker

medVC system

III. Recording, archiving, management & dynamic search

medVC Recorder

The medVC Recorder is a response to the growing need of hospitals and healthcare centres concerning secure recording and storing of medical videos

- Main unit (number of video inputs on request)
- Medical touch-screen monitor
- Recording of different inputs in parallel in full quality
- Automatic upload to portal or server
- Integration with PACS

medVC Video Manager

The medVC Video Manager is an Internet platform allowing for storage and management of recorded surgical sessions and live streams

- Integrated with medVC terminals and the medVC Recorder, so live broadcasts and recordings are initiated with a single tap on the medVC interface
- Recording available in the portal a few minutes after the operation
- Cloud or on-premise installation
- Management of all recorded videos
- Dynamic search
- Support for in-recording markers to easily navigate to important moments
- Video preview
- Video trimming
- Video download
- Access to thematic live and VOD channels

medVC
USERS & CLIENTS

Selected Clients – Europe:

- Centre Hospitalier Régional Universitaire de référence en Lorraine, Nancy (France)
- École de Chirurgie Nancy-Lorraine, Nancy (France)
- Hôpital Robert Schuman, Metz (France)
- Medical University of Sofia, Sofia (Bulgaria)
- San Martino – IST, Genoa (Italy)
- Assistance Publique Hopitaux de Marseille (France)
- Universitätsklinikum Essen (Germany)
- CHL Luxembourg (Luxembourg)
- Hospital de la Santa Creu i Sant Pau, Barcelona (Spain)
- Hospital Clinic, Universitat Autònoma de Barcelona (Spain)
- Leids Universitair Medisch Centrum, Leiden (The Netherlands)
- Universitätsklinikum Gießen und Marburg GmbH, Giessen (Germany)
- Facoltà di Medicina e Chirurgia dell'Università degli Studi di Cagliari (Italy)
- Krankenhaus Märkisch-Oderland, Strausberg (Germany)
- Hôpital Henri-Mondor AP-HP, Paris (France)
- Krankenhaus Waldfriede, Berlin (Germany)
- Guy's & St Thomas' Hospital London (UK)
- Vilniaus universiteto ligoninės Santaros klinikos, Vilnius (Lithuania)
- Various hospitals in Poland: Kraków, Warszawa, Lublin, Poznań, Toruń, Bydgoszcz, Gorzów Wielkopolski

Selected deployments worldwide:

- India
- Nigeria
- Pakistan
- Panama
- Peru
- The Philippines

50+ hospitals clinics healthcare centres

>220.000 remote participants

200+ medical events

100+ operating rooms

10+ years on the market

Examples of practical application of medVC

Interactive mobile cooperation of doctors – second opinion & consultations

Medical support across multinational operations

Cooperation between hospitals

Medical conferences & remote medical education

Recording, archiving, Video Manager & dynamic search

3D transmissions on request