Table of contents

The product ................................................................. 2
The company .............................................................. 3
Healthcare system context: current issues ....................... 4
Current technological infrastructure ............................. 7
The Reacts platform ..................................................... 9
Main features ............................................................ 10
  • Simple, intuitive design ........................................... 11
  • Instant messaging and file transfer .......................... 12
  • Teleconsultation capabilities .................................. 13
  • Remote education and supervision tools .................... 14
  • Augmented reality features ..................................... 15
  • Group licensing and administrative dashboard .............. 16
Subscription fees ....................................................... 17
Technical requirements ............................................... 17
Security ................................................................. 18
Reacts applications in healthcare .................................. 22
  • Care Coordination ................................................ 22
  • Teleconferencing between professionals and patients .... 22
  • Tele-assistance during administration of care ............. 23
  • Telerehabilitation .................................................. 24
  • Tele-emergency ..................................................... 25
  • Training needs ..................................................... 26
Financial benefits ...................................................... 27
Testimonials ............................................................. 29
Reacts in practice ....................................................... 32
Reacts, or “Remote Education, Augmented Communication, Training and Supervision” is developed by Montreal-based Innovative Imaging Technologies Inc.

Reacts is a secure, versatile, integrated communication platform featuring augmented reality capabilities that enables its users to interact, assess, work, teach and collaborate, to help improve the efficiency and quality of interactions between all members of the care team, including the patient.

Reacts supports healthcare professionals and organizations in the implementation of innovative care delivery models, with the ultimate goal of providing better care at a lower cost. The platform allows healthcare professionals to remotely interact in a dynamic, engaging and user-friendly way that helps improve access to care, decreases costs, and improves efficiency and satisfaction among both patients and healthcare professionals. Reacts has been designed to meet the high security and performance standards of the medical industry.

Reacts provides a rich virtual experience that we call “hyperpresence™”.

“Reacts’ unique and unparalleled interactive tools empower healthcare professionals, care teams, and patients by streamlining interactive communications and collaboration”

The rapid evolution of healthcare IT support systems has greatly facilitated the practice of care, but there remains an urgent need to improve accessibility and care coordination. Reacts was designed with this in mind, to better serve the needs of patients, physicians and professionals in care delivery.
Founded in 2012 by Dr. Yanick Beaulieu, Innovative Imaging Technologies consists of a team of 25 employees, built around a core of multimedia and software development experts, and is located in Montreal (Quebec, Canada). This passionate, seasoned team leverages the full extent of its talent to roll out Dr. Beaulieu’s innovative and visionary project, which aims to reinvent the interactivity and dynamic performance of multimedia collaboration and enable “hyperpresence™”.

Dr. Beaulieu is an Assistant Clinical Professor at the University of Montreal’s Faculty of Medicine. He also works as a cardiologist and intensive care specialist at the Hôpital du Sacré-Coeur de Montréal and at the Montreal Heart Institute. Moreover, he has been leading IIT’s team through the Reacts project since 2012.

**Dr. Yanick Beaulieu**  
IIT founder and President, creator of Reacts
Current issues

The use of video and audio collaboration tools in healthcare is presently limited. However, many current health system issues could be resolved, at least partially, with the help of adequate tools. Indeed, there are several consultative, communication and collaborative needs that affect the healthcare system's various stakeholders.

- Access to non-urgent and specialized care is often difficult to obtain.
- Wait times for some types of healthcare services may be quite long, especially during unexpected service interruptions (e.g. sick leave) or shortages of medical or professional resources.
- Travel to an urban center may be required to receive specific medical care or exams, which may have a considerable impact on the quality of life, finances and productivity of both patients and their loved ones.
- The quality of life of patients suffering from chronic illnesses requiring regular visits to healthcare facilities for treatment is undermined by these frequent travels, especially in the case of vulnerable individuals.
Professionals and physicians face the following challenges:

• The need to consult specialists to obtain expert advice on specific cases, either individually or within team discussions.

• The need to effectively disseminate their expertise to their colleagues, as well as provide coaching and mentorship in real-time.

• In some cases, the need to observe patients in their everyday environment, especially in rehabilitation cases.

• The need to provide clinical expertise coverage beyond office hours, requiring on-site presence or proximity to care facilities when ‘on call’.

• Dealing with certain patients’ frustrations concerning the inflexibility of traditional methods of providing care within modern settings.

• The need to have access to continuing professional development opportunities, as required by their profession. While a training program’s didactic material is available via e-learning, DVDs, websites and reference guides, the practical portion, regarding a topic’s more procedural and technical aspects, is the most vital component.
• Telehealth, meaning the act of providing remote care through information and communications technologies, is currently not being used anywhere near its full potential. When it is employed, it is often with a negative return on investment for health organizations.

• The creation of health organizations with public-centric responsibilities, as well as the governments’ willingness to consolidate clinical continuums, requires breaking down walls and implementing effective means to support professional and inter-organizational collaboration. Moreover, the hierarchy of services requires the creation of channels to facilitate access to cutting-edge expertise and foster knowledge transfer.

• Many inter-facility patient transfers and hospitalizations could be avoided if earlier knowledge-sharing would take place between care-giving teams.

• Reliability, traceability and security requirements pertaining to information systems used in clinical settings, combined with a complex environment and extensive geographic distribution, make most current video collaboration solutions inadequate for clinical use.

• The implementation of innovative telehealth solutions is often delayed by a cumbersome decision-making and sourcing process, while information and communication technologies (ICT) have been evolving at an exponential rate over several decades.

• Due to the current demographic and fiscal context, public health systems are facing a growing imbalance between healthcare supply and demand for an aging population. Consequently, decision-makers are constantly looking for sources of savings and service optimization.
Current technological infrastructure

Provincial governments have injected considerable funds into the implementation of videoconferencing networks in their respective territories since the turn of the century, specifically through government’s investment programs. Most hospitals now have access to videoconferencing capabilities due to bandwidth reserved for said activities, as well as professional equipment installed in dedicated areas. This equipment may come in the form of mobile carts, ranging from $5,000 to $40,000 per unit, or as integrated videoconferencing rooms, typically between $50,000 and $150,000 per unit, with costs varying widely based on the complexity of the installation process and the physical space to be equipped.

As federal investment programs are often limited in this sector, provinces now face the challenge of making these facilities sustainable in a difficult economic context. In Quebec, for example, no asset maintenance program has been planned to enable health facilities to budget for the replacement of videoconferencing equipment at the end of its operating life.
Limitations of the current technology

The current technological infrastructure of many healthcare systems features considerable limitations that prevent across-the-board deployment of telehealth and video collaboration equipment. These limitations include:

- High equipment costs and the lack of financing to update it.
- The equipment’s complexity, which requires technical support and user training that are seldom available.
- A lack of space in many healthcare facilities for videoconferencing equipment installations.
- The equipment’s lack of availability in smaller health organizations or service centers due to its high costs, among other factors.
- The limited performance capabilities of elements linking videoconferencing systems, thereby restricting access and the amount of simultaneous sessions.
- The reservation system’s complexity, which requires coordinating the availability of videoconferencing rooms, equipment and personnel across several organizations.
- The lack of equipment adaptation for clinical or training applications, as they have been designed for administrative meetings in a corporate context.
- The impossibility of communicating directly with physicians, professionals or patients in their homes mobile or via digital devices.

These numerous limitations end up severely limiting the application of current technological solutions to meeting the healthcare systems’ needs. Indeed, it is mostly used for administrative purposes, specifically during remote group meetings. These systems have had limited success at the educational level, especially as part of structured training programs offered by university health centers. Moreover, clinical applications have been relegated to marginal usage, far from fulfilling the aforementioned demand and the potential of a flexible and high-performance solution, such as Reacts.
Reacts (Remote Education, Augmented Communication, Training, and Supervision) is a unique software/web platform designed to remotely interact with, teach, assist and learn from other users.

- Reacts combines tools enabling videoconferencing, instant messaging, file sharing/transfer, collaborative work, skills assessment and screen/application sharing on a single, secured platform, while also integrating innovative functionalities such as augmented reality and real-time image overlay.

- The platform enables one to record and annotate sessions, create checklists and produce reports, thereby better standardizing and documenting virtual meetings.

- Through the secured sharing of applications, imaging data (CT scan, X-rays, etc.) may be easily transmitted between two remote sites.

- Reacts enables accessibility both inside and outside the hospital or healthcare network setting through its secured infrastructure.

- Users register to the Reacts platform through annual subscriptions. Deployment at the healthcare organization level can be achieved at significantly lower costs than that of conventional systems.

React is designed to keep up with the evolving needs of healthcare professionals in telehealth, remote collaboration and virtual training.
## Reacts Main Features

### Capabilities
- Software solution
- Easy installation, self-maintained, with online subscription management
- Can be used from the user’s terminal (desktop, laptop, tablet; BYOD, bring your own device)
- Available in multiple languages (English, French, Spanish, Portuguese, Chinese)
- Highly secured, high-quality audio and video communication
- Private, encrypted network (HIPAA and PIPEDA compliant)
- Available on several platforms: Windows 7 or higher, iOS (Mobile version)
- Synchronous (real-time) or asynchronous (“store and forward”) modes
- Incorporates cutting-edge technologies (multiple simultaneous audio-video inputs, augmented reality, 3D objects, image overlay, etc.)
- Application sharing for imaging data (CT scan, X-rays, etc.); file transfers (documents, images, videos, etc.)
- Reporting and checklist tools
- Advance session planning
- Can be used by both healthcare professionals and patients
- Point-to-point and multipoint communications
- Low subscription costs

### Highly secured
- Complies with HIPAA, PIPEDA, and PHIPA privacy and security standards
- Each client uses a secured personalized channel
- All channels are secured (TLS/DTLS)
- Strong identification & data encryption
- Logs available for traceability

### Technological prerequisites
- Windows 7 or higher (standard version)
  - 1.8 GHz processor or higher, 4 GB RAM or more, 75 MB disk space or more
  - 1366x768 minimal resolution, web camera and microphone (USB or built in)
- iOS 8 or higher (Mobile version), optimized for: iPhone 6, 6+, 7, iPad Air, Air 2
- Minimal Bandwidth of 0.5 Mbit/s upload and 0.5 Mbit/s download

### Subscription
- Annual subscription fees of $84 (Standard plan) or $120 (Pro plan), per user

### Technical support
- Available at no charge (web, e-mail, telephone)
Simple, intuitive to use

Clear menus accessible via the home page

“Face-to-face” mode for live discussions
Instant Messaging and File Transfer

- Securely send text messages, images, videos and any other type of file
- Experience an intuitive way of interacting with your colleagues, residents, and patients.
- Bring expertise where it’s needed, when it’s needed; to treat, train, assess, and support.
- Comply with security and privacy laws and regulations (PHIPA, HIPAA).
- Keep your personal information confidential; no need to share your cell phone number or e-mail address.
- Capture photos and videos securely on your iOS device with automatic synchronization to your encrypted Reacts account.
Teleconsultation capabilities

Secure collaboration

“Session” mode enables camera, image, file and video sharing, as well as the use of augmented reality and application sharing, among other functions.

Multiple audio-video inputs (cameras, patient monitor, ultrasonography, etc.) may be broadcast simultaneously.

Live imaging exam transfer, screen sharing

Ability to view and supervise ultrasonography exams (as well as other types of imaging exams)

Ability to consult radiology exams from remote PACS via secured application sharing.
Remote education and supervision tools

- Ability to prepare and record presentations directly on the platform for future remote broadcast.

Assessment / brief - debrief

Remote supervision

Remote teaching and guidance
Image capture and annotation to optimize patient follow-ups

- Ability to take screenshots and annotate them, e.g. in order to track the evolution of a patient’s wounds. Data is encrypted and saved to a file created by the professional.

Augmented reality features

Live use of image or virtual 3D object overlay enables virtual assistance to guide practitioners during a procedure, technique, surgery, etc.

Integrated augmented reality and image overlay
Group licensing and Administrative Dashboard

Because patient treatment and recovery involves a “team approach”

Manage your groups and assign access to your colleagues and guests through the Reacts administrative dashboard

- Easy, intuitive interface
- Simply enter users’ first names, last names and email addresses to assign access to existing Reacts users or to invite a new user to join your group
- Assign access in bulk to multiple users by importing your list from a .csv file
- Give “Administrator” rights to selected users to allow them to access the dashboard and manage group access

The Reacts web dashboard allows group administrators to manage their users’ access and allows users with Pro plans to manage their guests’ access.

Pro plan users can assign free Reacts guest access through the dashboard to as many patients and collaborators as needed

Reacts supports healthcare professionals and organizations in the implementation of innovative care delivery models, with the ultimate goal of providing better care at a lower cost.
Subscription fees

• $84 / $120 annual subscription fees, for unlimited use of the Reacts platform by a single individual, including all solution updates and upgrades, as well as technical support.

• Users can register directly online, or an organization’s program administrator can do so on their behalf, using the online administrative dashboard.

• Customizable user accounts: contact list, personal file directory, session recordings, checklists, planned sessions.

• Other options available based on organizational needs.

Technical requirements

Windows

• Windows 7 or higher
• Processor Base Frequency of 1.8 GHz or higher
• 4 GB RAM or more
• 75 MB of available disk space or more
• Minimal screen resolution: 1366x768 pixels

• Camera and Mic (USB or Built in)
• Minimal Bandwidth of 0.5 Mbit/s upload and 0.5 Mbit/s download (*)

For optimal performance with touchscreen devices:

• Graphics processing 20 EU’s / 400 GFLOPS or higher
  - Intel HD Graphics GT2 (4200, 4400, 4600, P4600, P4700, 5000 .. ) or higher
  - NVidia GeForce 8800, 9800, 430, GTS or higher

(*) For one outbound video stream and one inbound video stream.

iOS

iOS 8 or higher (Mobile phone and tablet compatible)

Optimized for:

• iPhone 6
• iPhone 6+
• iPhone 7

• iPad Air
• iPad Air 2
Reacts uses XMPP protocol and the jingle library to provide peer-to-peer (P2P) streaming capabilities. This foundation provides end-to-end DTLS-SRTP security with encryption to the audio and video streams. Additionally, the session control between peers (signaling) always uses TLS secured communications. In networks where stream connections between peers are not possible, IIT provides a relay server based on the rfc5766 specs to bridge the communication between peers in a secured way.

- Complies with HIPAA, PIPEDA, and PHIPA privacy and security standards
- Servers are hosted by a secure data center in Canada, with redundancy in a second secure center.
- DTLS-SRTP secured streams
- Strong identification
- Logs available

Highly secured connection both within and outside of the healthcare system
Security (continued)

IIT Reacts connectivity chart

Data Center Configuration

- Secured Streaming (streaming2.iitreacts.com)
- Tunneled VNC Server (vncserver2.iitreacts.com) (vncclient2.iitreacts.com)
- Tunneled Signaling Server (signaling.iitreacts.com)
- HTTPS Only Web Server (www.iitreacts.com)
- LAN
- DMZ
- Firewall
- Internet
- Home User
- Healthcare Institution

NOTE:

All our connections are outbound on port 443 and secured.

- All tunnels are coded using TLS 1 or better.
- A secondary data center replicates this configuration for disaster recovery purposes.
Remote collaboration must follow the following core principles:

- Confidentiality
- Security
- Traceability
Reacts applications in healthcare

A collaborative platform such as Reacts can have several applications in healthcare. Indeed, this platform not only enables optimization of activities already made possible by existing video collaboration solutions, but also opens new opportunities through its advanced functions. The list of applications below is not exhaustive, but provides relevant examples that illustrate the platform’s potential.

Clinical needs

Care Coordination

Clinical team members (doctors, pharmacists, etc.) and administrative and support staff (heads of units, clerks, technologists etc.) can adopt the platform’s tools to help optimize their communications, thereby improving efficiency and reducing turnaround times.

Reacts benefits for this application:

• **Instant messaging:** Projects using Reacts, such as recently undertaken at Montreal’s Sacré-Cœur Hospital’s cardiology department, have found that most participants consider integration of Reacts’ secure instant messaging in their work flow to have greatly improved productivity and efficiency.

• **Secure file transfer:** The ability to share clinical images improves team performance times while conforming to the need for security and traceability.

• **Recording:** recording collaborative sessions is also possible for all video sources, be it for archiving or training purposes.

• **Mobility:** Reacts was found to be all the more useful in team coordination due to its mobility, reliable performance and accessibility on various web-enabled device platforms.
Teleconsultations between professionals and patients

Teleconsultation sessions may be held between professionals and their patients. Reacts’ interactive videoconferencing features allow professionals to provide efficient, time-sensitive care, especially to those living in remote areas.

**Reacts benefits for this application:**

- **Mobility:** since Reacts works on various digital devices, professionals, physicians and even patients can participate in consultation from their office, home or any other location with a suitable Internet connection.

- **Document sharing:** the Reacts platform enables secure document sharing in real-time, thereby facilitating workflow that is often weighed down during remote consultations. Documents, images and videos that can be shared include patient consent, patient education documents or videos, lab results, imaging test results, etc.

- **Recording:** recording collaborative sessions is also possible for all video sources, be it for archiving or training purposes.

- **Reporting:** this function is an integral part of the application. A consultation report may be produced and shared digitally within the same application.
Tele-assistance when care is administered:

The healthcare system includes several specialized resources who are limited in number and whose expertise is regularly sought by their colleagues. A relevant example is tele-assistance for wound care, for which nurses trained in wound care or enterostomal therapy can provide guidance to attending nurses in administering specialized care. This practice avoids having to transfer or move patients, serves as a coaching opportunity and improves access to specialized care.

Reacts benefits for this application:

• **Home care**: tele-assistance is presently limited to inter-facility sessions due to current technological limitations. The Reacts platform allows the extension of tele-assistance to home-care nurses that require remote support. Reacts would help put an end to the common, yet illegal practice of taking photos with personal devices and transferring them via unsecured means.

• **Care standardization**: specialized nurses can provide staff nurses with standardized checklists concerning the treatment being delivered, which fosters care standardization, reinforces training and improves health.

• **Multiple video sources**: a swivel arm-mounted dermatological camera can be positioned right in front of the wound requiring treatment, while a second one can be used to film the nurse’s handling of the patient or give a broader view. This configuration provides a much better view to the specialized nurse operating remotely, who can freely navigate through the video sources to see what’s more relevant at any given time.

• **Snapshots**: snapshots of the wounds can be taken, saved and shared during future sessions. This allows professionals to observe and assess the wounds’ evolution and adds considerable value when compared to live interventions alone.
Telerehabilitation

Professionals can provide physical rehabilitation sessions remotely to patients in their homes.

**Reacts benefits for this application:**

- **Less discomfort for patients:** Reacts helps avoid travel time for patients with reduced mobility, who require access to specialized transportation, or for those with persistent or chronic pain, which is frequently the case with physical rehabilitation.

- **Patient assessment in their daily environment:** the system enables professionals to remotely observe patients in their everyday environment and assess whether it is suited to their health condition. This helps avoid sending occupational therapists on house calls, especially for people with reduced mobility following an accident or the birth of their first child.

- **Possibility of conducting simultaneous sessions:** when a patient participates in a remote telerehabilitation session in their home through Reacts, professionals can give consultations with several patients at once by giving each of them a series of exercises to perform simultaneously. This helps professionals increase their productivity.

- **Pre-recorded exercises:** patients can perform exercises prescribed by professionals while recording themselves using Reacts and following instructions on checklists, images and videos provided by the professionals, who can then review the recordings. This procedure encourages patients to comply with their exercise programs and helps reinforce the training given by professionals.
Tele-emergency

Tele-emergency can be vital for certain patients arriving at the emergency ward. In the case of a patient with multiple traumatic injuries, a child undergoing a pediatric respiratory emergency or a stroke victim, a quick remote consultation with a clinical staff specialist is essential. Reacts enables the contacting of specialized staff physicians from designated expertise centers to assess the situation, advise the emergency physician, recommend treatment and decide whether or not an inter-hospital transfer is required.

Reacts benefits for this application:

- **Remote access to PACS**: Reacts enables medical experts to remotely view and manipulate the PACS visualization software of the healthcare facility where the patient is located. In the case of a stroke, for example, this tool would enable the consulting neurologist to analyze the patient’s computerized axial tomography exam results without having an account in the PACS system.

- **Clinical data sharing in real-time**: the video signal of a physiological monitor, sonography unit or other medical equipment can be shared with the consulting specialist in real-time.
At both the didactic learning and clinical levels, training needs are numerous among students, physicians, nurses and other healthcare stakeholders. Moreover, several disciplines require the learning of technical manipulations or procedures, which involve teacher-led student practice. In this increasingly mobile era, both teachers and students are often in different locations.

Reacts for training needs: the case of guided ultrasonography

Several clinical practitioners across different specialties (emergency, intensive care, rheumatology, internal medicine, etc.) need to learn how to perform guided ultrasonography for various indications, such as ultrasound-guided vein access installation, assessment of free liquid in the abdomen or pleura, focused assessment of cardiac function, assessment of joint effusion, etc. While ultrasound theory is relatively easy to learn through online classes, reference books or a CD ROM, its technical component can prove problematic, as there are many more students than trainers, and both are rarely in the same place, which impedes the regular and efficient dissemination of training.

In a simple process, students can plug an ultrasound device to their computer to send their exam to their remote trainers/supervisors through Reacts. They may also plug in one or more additional cameras to show the placement of the ultrasound probe or needle during ultrasound guidance practice. The remote trainers/supervisors may then observe the exams and provide direct feedback. They may, for example overlay a virtual ultrasound device on-screen to show their students where to place the probe. They may also send video clips or images showing illnesses and use checklists or reports to provide standardized, step-by-step training at every phase of the exam. Students therefore have access to personalized, high-quality clinical supervision without having to go anywhere. Using Reacts makes "longitudinal" training much more accessible and fosters the acquisition and maintenance of both technical skills and theoretical knowledge.
Reacts enables highly interactive remote training and supervision of various techniques, physical exam manipulations, surgical procedures, wound treatment techniques, etc.

**Reacts benefits for this application:**

- Dynamic interaction between students and trainers
- Creative and innovative training methods
- Interactive remote training and support for procedures and techniques
- Integration of augmented reality
- Skill assessment
- Dissemination of instructions and information session
Financial benefits

The following table details the financial benefits of Reacts compared to traditional equipment.

The scenarios described below imply communication between two healthcare centers only, since solutions other than Reacts do not feature video collaboration between a healthcare center and the internet. Estimated costs are determined using prices for similar configurations over the past few years as part of telehealth implementation projects in Quebec’s healthcare network.

<table>
<thead>
<tr>
<th>Activity</th>
<th>Traditional scenario</th>
<th>Reacts scenario</th>
<th>Potential savings over 8 years¹</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>Required equipment and software</td>
<td>Estimated costs</td>
<td>Required equipment and software</td>
</tr>
<tr>
<td><strong>Teleconsultation</strong> between two sites</td>
<td>Two HD videoconferencing carts</td>
<td>- Purchasing costs: $6,000 to $35,000 per cart, depending on models selected</td>
<td>- Two Reacts subscriptions</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Service contract starting at $650/year/cart</td>
<td>- Reuse of existing computers or digital tablets</td>
</tr>
<tr>
<td><strong>Tele-assistance</strong> between 1 expert site and 3 remote sites, with session recording</td>
<td>- Four HD videoconferencing carts with omnidirectional microphone</td>
<td>- Purchasing costs: $6,000 to $35,000 per cart, depending on models selected</td>
<td>- Three Audiosoft cameras on Manfrotto swivel arms</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- $2,450 for each camera/swivel arm kit</td>
<td>- 4 dedicated PCs with Windows 8 and integrated camera, speakers and microphone</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- $700 for recorder</td>
<td>- 3 omni. microphones</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Service contract starting at $650/year/cart</td>
<td></td>
</tr>
<tr>
<td><strong>Telethrombolysis</strong> between 1 expert site and 3 remote sites, with session recording</td>
<td>- Videoconferencing equipment at third-party neurologists’ office</td>
<td>- $8,000</td>
<td>- Reuse of neurologists’ existing computers or digital tablets</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- $20,000 per cart</td>
<td>- 8 individual Reacts subscriptions for neurologists</td>
</tr>
<tr>
<td></td>
<td></td>
<td>- Service contract of $650/year/videoconferencing cart</td>
<td>- For the 14 primary sites: kit comprised of a Microsoft Surface Pro 3 tablet, an omni. Microphone, cables and connectors for PACS and physiological monitor transmission, 1 ergonomic Ergotron Neo-Flex LCD cart</td>
</tr>
</tbody>
</table>

The savings listed above do not take into account the numerous indirect benefits of choosing Reacts technology, namely reduced technical training and support needs; the lack of a central infrastructure to manage; less coordination and administrative time needed; compared to traditional systems; increased personnel efficiencies due to the mobility enabled by Reacts; etc.
"I had the opportunity to use Reacts for remote ultrasound training sessions with small groups, as well as during large-scale educational events. The Reacts platform proved to be an educational tool with enormous potential, as it enables instructors to provide their students with dynamic, highly interactive remote training on the various practical and clinical aspects of critical care ultrasonography.

Moreover, this platform is very useful for assessing skills for both the image capture and interpretation phase.

Beyond its uses for training, Reacts enables real-time image and video transmission for clinical situations.

During an important academic training event, Reacts enabled the direct broadcast of clinical cases, including echocardiographic imaging, between American and European clinical professionals, thereby allowing them to perform case studies with active audience participation. Reacts provided unparalleled transatlantic communication between two expert groups, which resulted in a unique interactive experience for all participants.

Beyond Reacts’ utility as an excellent remote ultrasound training tool, it is also a flexible, user-friendly system with amazing potential for several other types of training and telehealth applications.

I will wholeheartedly use Reacts in my practice for a wide array of clinical and educational applications."

Paul H. Mayo, MD
Professor of Medicine, Division of Pulmonary & Critical Care
North Shore-Long Island Jewish School of Medicine
New Hyde Park, New York, USA
“Having a secure online environment to share and connect on the delivery of care is more important than ever, especially for remote communities and individuals coping with mobility challenges. Reacts brings remote physician-to-physician collaboration to a new level, helping any physician — despite their geographic location, be at their best.”

- Lindee David,
Joule CEO (a Canadian Medical Association company)
“We believe that the Reacts solution’s potential to meet collaborative work needs is very promising, which is why our main objective is to assess this new technological platform in its capacity to optimize service, remote patient tracking and knowledge transfer continuums.”

Kathy Malas,  
Head of Innovation Platform,  
CHU Sainte-Justine

“The tests I’ve conducted from Switzerland with Dr. Beaulieu enabled me to discover Reacts’ full power and flexibility. The remote supervision and training of up-and-coming physicians is being taken to the next level. At intensive care, we can now see, all on a single screen, a patient’s digitalized medical file, the patient himself, his vital signs monitor, interaction with the on-site physician, and even, with the proper interface, an online ultrasound exam. Documents may be easily shown, shared, consulted simultaneously and annotated by one of more participants. When the given specialist isn’t on-site, he may obtain more specific information using a tablet or smartphone. We tested these remote consultations by requesting dermatological feedback. Image quality, combined with the live interaction enabled by Reacts, provided more positive comments than sending photos and making a phone call.

I very much look forward to implementing this software in our multi-site hospital, where it will be sure to become an invaluable tool.”

Dr. Damien Tagan  
Physician-in-Chief, FMH Internal Medicine and Intensive Care  
Hôpital Riviera-Chablais Vaud Valais, Switzerland

Testimonials (continued):
Many hospital centers or others organizations in Quebec and abroad are currently deploying pilot projects or have since adopted Reacts in various disciplines to facilitate and optimize communication, training or supervision, depending on the projects’ specific objectives. Here are a few pilot projects that are either upcoming, in progress or completed:

- **University of Montreal Health Center (CHUM):**
  Several projects are underway and have been realized using Reacts, including remote supervision in neurosurgery, care coordination and follow-ups with the multidisciplinary Center of Expertise in Replantation (CEVARMU) and Major Burn Center.

- **University of Montreal Integrated Health Network (RUIS):**
  Following a trial process of nearly a year regarding its potential to improve access to specialized rehabilitation assessment, consultation and intervention services, in collaboration with the Centre de coordination et de référence du RUIS de l’Université de Montréal, the Centre de réadaptation Lucie-Bruneau (CRLB) and the Institut de réadaptation Gingras-Lindsay-de-Montréal (IRGLM), Reacts proved to be a very effective solution and was later integrated into their regular services.

- **McGill University Health Centre (MUHC):**
  The National Program for Home Ventilatory Assistance (NPHVA) provides tele-training services and multidisciplinary teleconsultations with their partners and patients, and “tele-visits” or virtual visits with patients at home across Quebec, using Reacts to facilitate it’s interventions.

- **University of Sherbrooke Health Center (CHUS):**
  The Centre de Coordination de la Télésanté (CCT) of the Centre Intégré Universitaire de Santé et de Services Sociaux de l’Estrie-CHUS (CIUSSS de l’Estrie-CHUS) in Quebec deployed Reacts for their Wound Care Teleassistance (WCT) service, the largest of it’s kind in Canada, and has since expanded their services to include teleconsults in the patient’s home with the support of Canada Health Infoway.

Since September 2017, Innovative Imaging Technologies has a partnership with Joule, a Canadian Medical Association company. This collaborative efforts aims to provide Reacts to the 85,000 CMA members to enable secure, affordable and convenient communications between physicians, patients and other health care providers. The Reacts platform will help facilitate the safe practice of medicine in Canada.
• Hôpital du Sacré-Cœur de Montréal:
The hospital’s cardiology department, support staff and administration completed a care coordination pilot study focusing on Reacts’ instant messaging and secure file transfer tools to enhance team coordination efficiency. The study concluded that coordination efficiency had significantly increased, and participants generally reported high satisfaction with the platform’s performance, which will soon be implemented for ongoing operations.

• University of Ottawa Heart Institute:
Dr. Choo’s et al’s team at the Cardiac Anesthesiology department of the University of Ottawa Heart Institute presented their study at the Society of Cardiovascular Anesthesia’s 2017 annual meeting. The study validated the feasibility of telementored instruction of cardiac point-of-care ultrasound (POCUS) using Reacts.

• Presentation at World Congress Ultrasound in Medical Education:
Dr. Steinmetz’s team from McGill University presented their “Teaching the FAST algorithm with the Reacts platform” pilot study results, concluding that the acquisition of practical ultrasound skills was equivalent whether taught via Reacts or in person, and that Reacts can be used to remotely teach ultrasound-naive students the bedside ultrasound skills necessary to identify discrete components of the FAST exam.

• Montreal Heart Institute:
Canadian, US and Europe surgeons gathered at the MHI to participate in the 2nd edition of a symposium on the Ross Procedure, a complex procedure for aortic surgery. Using Reacts, both onsite participants and others across the world were able to observe the precise procedure, live, while interacting with the surgeon.

• CIUSSS du Centre Sud de l’Île de Montréal:
Since March 2015, speech therapists from l’Institut Raymond-Dewar, l’Institut universitaire en réadaptation Gingras-Lindsay-de-Montréal and le Centre de réadaptation Lucie-Bruneau have made progressive use of remote intervention methods using the Reacts technological platform.
Better Communication.
Better efficiency.
Better care.

www.reacts.com

+1 (514) 223-1717
1-844-423-1717