Wearable Technology at Work for Enterprise Business

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# Table of Contents

<table>
<thead>
<tr>
<th>Section</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Introduction</td>
<td>1</td>
</tr>
<tr>
<td>State of Wearable Technology in the Enterprise</td>
<td>3</td>
</tr>
<tr>
<td>What Goes Into a Successful Wearable Solution for Business?</td>
<td>5</td>
</tr>
<tr>
<td>Decisions, Decisions: Wearable Device Options in Enterprise</td>
<td>8</td>
</tr>
<tr>
<td>When Wearables are Necessary: Two-hand, One-hand, and No-hand Models of Remote Support and Training</td>
<td>10</td>
</tr>
<tr>
<td>Enterprise Wearable Tech Use Cases</td>
<td>12</td>
</tr>
<tr>
<td>Automotive Company AC</td>
<td>13</td>
</tr>
<tr>
<td>Heavy Machinery Company HMC</td>
<td>15</td>
</tr>
<tr>
<td>Manufacturing Company MC</td>
<td>18</td>
</tr>
<tr>
<td>High Tech Company HTC</td>
<td>20</td>
</tr>
<tr>
<td>Utilities / Field Service Company FSC</td>
<td>23</td>
</tr>
<tr>
<td>eLearning Company EC</td>
<td>27</td>
</tr>
<tr>
<td>Learn More About HPE MyRoom Visual Remote Guidance (VRG) Solution</td>
<td>30</td>
</tr>
</tbody>
</table>
Section I:
State of Wearable Technology in the Enterprise
Wearables are growing on enterprises. They’re appealing for their potential. More importantly, and perhaps surprisingly, they’re making a real difference – right now – for numerous businesses. How? Wearables are at work in enterprises to:

- Improve productivity
- Increase efficiencies
- Augment worker safety, and
- Enhance customer relations

And, in 2016, wearables as applied to business are just getting started.

What’s all the excitement about? It comes down to one simple idea:

Arming the right person with the right information at the right time and in the manner most convenient to them.

Why wearables? What makes wearable devices unique for enterprises is their portability and glanceability.

This means wearables deliver task-based instructions, access business-critical information such as customer profiles and equipment specs, and generate data that can be analyzed in real time to provide actionable insights—all hands-free, immediately, and on-the-spot.

Coupled with augmented reality technology, wearables like smart glasses open up a host of new opportunities for how people collaborate, communicate, learn and do their work. Imagine, for example, the capability to interact with 3D models of machine parts before one’s eyes. Imagine seeing through the eyes of remote customers and partners. Imagine collaborating with remote experts and colleagues with more natural ease than ever before possible.

Imagine no longer! In 2016, wearables for enterprise business are real.
Section II:
What Goes Into a Successful Wearable Solution for Business?
It’s plain to see that the enterprise wearable technology market is emerging, and fast. Almost every day, new hardware developments and software partnerships are announced, and new applications for wearables in the workplace are explored.

At Hewlett Packard Enterprise (HPE), we are exposed constantly to the creativity of our customers who are finding new ways to use technology to solve old problems. Problems like customer service, field support, remote learning—our customers are finding new ways to apply wearables and mobility solutions to become more responsible, relevant and ready for business.

With the number of real-world use cases on the rise and expected to grow from the dozens to the thousands in the next year alone (APX Labs), it is clear that today’s organizations are more than just intrigued by wearables. But take note, wearables by themselves are not the whole answer—the devices themselves do not offer significant improvements or solve critical business challenges. No, for enterprise success, wearable tech must be integrated into a complete solution.

Based on our work at HPE, we’ve defined the following technology and service components that must be present and working together to deliver a meaningful business result.

**Technology Components**

- **Hardware** – The wearable device(s) chosen must fit an organization’s goals and workforce. Typically, a mix of wearables and mobility devices is most appropriate. Choice of hardware provider will also vary. See later in this eBook for a list of wearable devices available at the time of this publication.

- **Wireless connectivity** – Dependable local wireless to connect the wearable devices to the internet is a key and critical enabling technology.

- **Application platform** – The platform is critical to provide the collaboration capabilities among those using wearable devices, as well as those using mobility devices and computer systems. Our HPE MyRoom/VRG solution is one such application platform.
- **Secure cloud communications** – A secure communication channel meeting enterprise-grade encryption standards is most appropriate for enterprise use. Our HPE MyRoom/VRG solution comes with HPE Helion cloud connectivity, for assured secure communications.

- **Knowledge base integration** – Integration of the Application Platform with an enterprise-class knowledge base like Salesforce makes it possible for wearable users to access the information stored within as well as contribute new information to that base.

**Service Components**

The service side of the solution involves partnership with a trusted solution provider, one with the expertise to assist any organization in selecting the technology components, along with configuring, deploying, and supporting the solution over time. In addition, this partner might:

- Provide advice on how to harness the power of wearable technology for collaborative eLearning and remote support

- Help design and develop the content at the heart of the solution—for instance, on-demand learning or training material

- Custom-fit the solution to the organization’s business and workforce, as well as help train its employees on the solution

In addition to process and technology, don’t forget your people.

Organizational Management of Change is a key service that can help your workforce to understand and embrace the new opportunities that are offered by wearable technology. Wearable technology opens the door; Organizational Management of Change service can help you, your IT team, your workforce to fully step through the door into a new future.
Decisions, Decisions: Wearable Device Options in Enterprise

What are all the different wearable technologies available to enterprises today?

- **Smart glasses** – Monocular displays like Vuzix M100 or ChipSip SiME provide at-a-glance information in a section of the wearer’s field of vision. Using voice or touch, users can do such things as record video, scan a barcode, make a voice call, and view task lists and instructions. More immersive glasses like the Epson Moverio or the forthcoming Microsoft Hololens provide a truer augmented- or mixed-reality experience, with a fuller field of vision. Users might interact with 3D models of parts or blueprints, or practice remote collaboration whereby an expert can guide them through unfamiliar or complicated procedures.

- **Smartwatches** – Though currently not as popular as smart glasses, smartwatches can be used to display at-a-glance notifications, including email messages and calendar alerts for on-the-go business professionals; safety alarms in industrial environments; and quick messages between retail workers. Some also have cameras integrated for visual as well as audio interaction.

- **Smart badges, lanyards, and wristbands** – Badges and lanyards are not unfamiliar in enterprise settings like an office or lab. When equipped with sensors, these items can be used to track employees in order to glean insights for improving workplace productivity. Along with wrist-worn devices like the Nymi band, smart badges might also serve for authentication purposes.
granting secure access to enterprise applications and sensitive physical areas. In addition, a smart armband like the Myo, which makes use of natural human gestures, can be used to operate computer applications and digitally manipulate documents.

- **Smart clothing and gear** – Smart apparel can be employed to monitor jobsite safety by sensing environmental factors as well as tracking employee health metrics. Companies are experimenting with incorporating advanced sensors into the gear and uniforms already worn by workers; and with real-time data analytics to turn the collected data into actionable insights and alerts.

- **Other** – In addition to the above device categories, there are also activity trackers, smart jewelry (rings, necklaces), body cameras, and a variety of sensors embedded into clothing items (tee-shirts, socks) and other accessories rendering those objects both smart and wearable. Logistics workers, for one, have used smart rings to scan packages, while police departments across the U.S. are testing wearable cameras in the field; and employers are giving fitness trackers to employees to save on health insurance. Lastly, there are more experimental – even futuristic – devices, including hearables, embeddables, ingestibles, and exoskeletons.

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<thead>
<tr>
<th>MANUFACTURER</th>
<th>PRODUCT</th>
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</tr>
</thead>
<tbody>
<tr>
<td>ChipSip</td>
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</tr>
</tbody>
</table>
Section III: When Wearables are Necessary: Two-hand, One-hand, and No-hand Models of Remote Support and Training
In most enterprise organizations, the workforce is not uniform but rather diverse, comprised of employees with varying levels of experience and expertise, along with differing responsibilities and working styles. Some workers are able to sit at a desk and use a laptop or desktop computer to perform their jobs. Others are more mobile but can spare a hand to operate a smartphone or tablet. Then there are those workers whose jobs are truly hands-on—they need two hands not only to work but also to learn, and lose valuable time when they must divert attention from the job at hand or leave the shop floor to call for help.

For these “no-hand” workers, the process of asking for and receiving assistance while in the field or in the middle of a job to, say, troubleshoot equipment with a remote support technician is both disruptive and inefficient.

What we’ve just outlined are three groups of workers and three corresponding models of modern remote support and training delivery:

- **Two-hand**: Computer systems-enabled, for those workers who are stationary and can use two hands to type during a support call

- **One-hand**: Mobility device-enabled, for those who move around while they work and can touch a tablet screen to get help and learn

- **No-hand**: Wearable tech-enabled, for those who use both hands to work and need hands-free support and training on the job

Logically, the model chosen by an enterprise organization should accord with the nature of its workforce. However, since most organizations have workers who operate across all three models, they require flexible solutions that support a range of devices and therefore a range of working styles. For advanced collaboration and e-learning, a solution like HPE MyRoom/VRG offers that adaptability. Let’s consider the solution in action by examining some real use-case examples gathered from our work with real HPE customer organizations.
Section III: Use-Cases
Automotive Company (AC)
______________
**Automotive technicians and mechanics who need to learn new tools and procedures with less disruption.**

**Company Description**

AC is an American multinational corporation that designs, manufactures, markets, and distributes vehicles and vehicle parts. Among the world’s largest automakers, AC produces vehicles in over 35 countries and does business in more than 120 thanks to a global network of 200,000 workers, 400 factories, and 20,000 dealers.

**Problem/Challenge**

In the last decade, AC has had to recall over three million vehicles for fire and other safety risks. Each time a recall is issued, the company has to go through a rather difficult, time-consuming and costly process to remedy the problem.

In the case of a vehicle recall, an auto manufacturer has three options, any of which must be done at no charge to the vehicle owner:

1. Replace the vehicle with an identical or similar vehicle;
2. Refund the purchase price in full (minus a reasonable allowance for depreciation); or
3. Repair the vehicle.

Clearly, when possible, fixing the vehicle is the most cost-effective and therefore optimal choice.

When a safety defect is identified in one of AC’s vehicles, affected auto owners typically drive their cars to local dealerships, where the local dealership technicians are expected to know how to repair the defect. Oftentimes, a unique type of fix is required, which the local techs are not prepared or equipped to perform because they lack the necessary training or tools to do so. AC is responsible for providing that training—a daunting task given the widely dispersed, intercontinental nature of its system of dealerships.

Rather than send out an expert to each and every one of its dealerships around the world to train the technicians in person (a very costly endeavor that is not always successful the first go-around; AC is seeking a more efficient, economical and effective training solution to
improve upon the traditional automotive recall process.

**Solution/Application**

In the case of a recall, a solution like HPE MyRoom/VRG could help AC to effectively train its dealership technicians all over the world. Let’s break down the application into three steps:

1. **Actual training:** Wearing smart glasses, experts at AC’s company headquarters would be able to guide the local techs – no matter where they are located – on the specific repairs required to successfully carry out the recall from a first-person perspective.

2. **A video record:** Inherent in the solution is the ability to record the initial training and to store this education in a knowledge base to serve as additional or backup training material for later reference.

3. **Follow-up:** Once the local techs set about performing the fix, they may encounter issues or have additional questions. Wearing smart glasses, they would be able to connect to one of AC’s SMEs and have that expert see through their eyes (or glasses) in real time to ensure the repair is being performed correctly.

In the time, cost, and safety-sensitive scenario of an automotive recall, a solution like HPE MyRoom/VRG is ideal. For the techs at AC’s dealerships all over the world, the solution grants the dual ability to record the initial training performed via wearable technology as future reference material and to reach out via a wearable device should there be any gaps in that training. This dual ability is what makes for a lasting solution; and a lasting solution saves AC priceless time and manpower in its critical response.
Heavy Machinery Company (HMC)

Large equipment manufacturers who work through dealerships or other partners and who need to train in-the-field operators and maintenance teams.

Company Description

HMC is an industrial equipment manufacturer and supplier, selling large sewer cleaning, hydro excavation, and vacuum trucks to municipalities, utility companies, and contractors through an extensive network of dealerships located all over the world. The company also provides support for its products to both dealers and end users, which sometimes requires the dispatch of its factory-based support personnel to resolve an issue.

Problem/Challenge

If you’ve never seen a sewer cleaning truck—we’re talking large, highly powerful, and highly complex pieces of equipment mounted onto giant trucks. Companies in the sewer and water utilities industry all over the U.S. as well as internationally have teams that man HMC’s trucks from the early hours of the morning to maintain municipal and private sewer systems and ensure the environmental safety of our neighborhoods.

Typically, equipment breakdowns and malfunctions happen on the job, when it may not be possible to leave the work site—for example, in the case of a sewer truck in the process of servicing miles of underground pipeline. Whether it’s a user in the field or dealer service personnel requiring support, HMC must either incur the costs of sending out its own techs or rely on traditional mobile devices to accomplish complex troubleshooting and education.

Solution/Application

To better assist its customers on the spot, HMC is looking for a solution like MyRoom/VRG, which would improve upon the company’s current method of customer support and training delivery in several ways:

1. Live wearable collaboration for complex troubleshooting = reduced costs and delays:

As the solution features real-time voice and video sharing, those on the job experiencing the problem would have the ability to both
show and describe the situation to a remote expert. As compared to traditional telephone support, this would accomplish a faster time to reach a common understanding of the problem; and also translate into cost savings for both customer and manufacturer in the form of less time off the job and fewer on-site visits.

A machine fails in the field; the problem is a hydraulic pump. The operator puts on a pair of safety smart glasses, and everything he sees is immediately displayed to the member of HMC’s team on the other end of the secure connection. HMC’s expert is then able to determine the reason for failure and provide repair or replacement instructions—all without having to rely on imprecise verbal description, travel to the customer site, or wait for the customer to send the faulty pump back to the factory. The expert might even instruct the operator to focus on or zoom into certain areas of the part or truck with the glasses for more accurate diagnosis if needed.

2. **Effective remote maintenance and repair training = faster issue resolution**

Whatever equipment error encountered by the customer, the remedy comes down to a matter of training; or providing the workforces who use and service HMC’s trucks with the complex information they need – from repair procedures to product details – in a manner that sticks and suits how they work. This is where augmented reality comes in.

Say a sewer truck operator had to perform maintenance. An SME would be able to instruct him verbally as well as augment his field of vision by drawing on a screen, highlighting a specific part he wanted the customer to interact with. That notation would show up inside the worker’s smart glass display; and the SME would be able to observe in real time as his directions were followed. Combining spoken guidance, video demonstration and graphic instruction, this flexible, interactive method of digital learning could also be extended to training dealership personnel in the use of a new unit.

3. **Stored audio and video recording = rich content for all parties:**

To make a training solution self-sustaining, trainees must be able to recall their initial education over and over again. A solution like HPE MyRoom/VRG offers the ability to preserve in a knowledge base all interactions within a collaborative session. At any point, HMC’s customers would be able to access this material; so if training on the same subject matter were required, the appropriate session could be replayed – even while on the job – via a wearable or other mobile device. And multiple recorded sessions, capturing common issues and
best practices, could be leveraged for sustained learning. What's more, the record would also be valuable to HMC. Each collaborative training session would become part of that client's case history and any defect or other serious equipment issue would likewise become record, providing valuable information to enrich HMC's customer relationships and product development. The manufacturer could even develop and upload custom training content on the same platform.

As HMC's end clients are responsible for cleaning sewer systems around the world, ensuring these systems function reliably to prevent dangers like clogged pipes and the spread of illnesses; it is imperative for HMC to keep its customers working—by training their personnel in the proper operation, maintenance and repair of its equipment. By employing a solution like HPE MyRoom/VRG to carry out this training, HMC would not only better serve its customers but also enable them to support themselves.
Manufacturing Company (MC)

Manufacturers who need to assist customers with product shipment issues and educate end users on the use and application of their goods.

Company Description

MC is a European manufacturer and global supplier of industrial sewing threads, whose products hold together 20% of the world’s garments. MC provides its thread to customers in the apparel, footwear and specialty markets in over 100 countries.

Problem/Challenge

The apparel industry today is a highly globalized, highly labor-intensive trade, with clothing often designed in one country, manufactured in another, and sold in yet a third. The entire industry rests on two levels of production, the first being the production of raw materials like fibers and textiles; and the second being the production of garments. MC operates at the top of this supply chain, providing the trim with which the end products are assembled.

Like its customers, MC typically operates against the clock. It trades in the finest materials across vast distances, and must work with both designers and manufacturers, providing expert advice and training on everything from choosing the right needles and seam designs to ensuring fabric compatibility—and all in real time to keep production moving at its clients’ factories.

When thread issues threaten to halt sewing operations, it is critical that MC’s team be able to visualize the problem and provide the necessary advice and education to the sewing machine operators and their supervisors in a timely and effective fashion in order to avoid any major setbacks.
Imagine the following common scenario: MC supplies thread to a clothing brand owner with a factory in Hong Kong. One day, several factory workers are forced to cease their work due to an issue with the thread—the product is gumming up their sewing machines. Another factory worker realizes that a particular batch of thread doesn’t match the original sample. Since sacrificing quality is not an option, the factory manager must now deal with a shortage of materials on top of machine downtime and a fast-approaching deadline until he can reach someone at the thread company and describe the problem over the phone.

In the above scenario, a solution like HPE MyRoom/VRG would offer four key benefits:

1. **Better communication**: Rather than leave the shop floor to locate a phone when something goes wrong, the factory worker or manager in Hong Kong could put on a pair of smart glasses, connect to one of MC’s SMEs in Europe over the secure collaborative platform, and show him or her the problem right from the production line.

2. **On-the-spot diagnosis and resolution**: From the POV of the employee in Hong Kong, the thread expert would be able to visualize the problem in real time. If the thread were not passing through the needle correctly or the tension disk on the sewing machine were too tight; the SME would be able to spot this far more quickly and accurately through the worker’s smart glasses, and provide instruction for remedying the issue. If necessary, the SME could also demonstrate a solution via wearable technology.

3. **Limited Disruption in Operations**: In cases where the actual thread is defective (i.e. a color variation), real-time diagnosis of the issue would enable the thread manufacturer to fast-track a solution and get the right thread to the factory as quickly as possible.

4. **Future prevention**: All of the above – including the video record of the factory employee showing the problem to the thread SME, the advice and training given to the factory workers, and the expedited order of replacement thread – would be stored in a knowledge base for documentation and future reference.

In the era of fast fashion, the apparel industry thrives on quick response time; and while we rarely consider the thread that holds our clothes together, it is an essential raw material in the apparel manufacturing process. Problems arising at this very fundamental level can hinder the entire industry cycle and cost brand owners dearly. Adopting a solution like HPE MyRoom/VRG – with the ability it affords MC to immediately and visually assist and educate those who depend upon its products – would empower the company to help its clients meet the increasing pressures on quality and delivery that characterize the modern world of apparel.
High Tech Company (HTC)

Manufacturers of high tech solutions who need to train and support remote customers in the operation of complex products or equipment.

Company Description

HTC manufacturers and sells large-format, high-volume printers and industrial presses to designers, marketers, businesses, and artists with digital and commercial printing needs. Each day, thousands of customers in over 150 countries utilize HTC’s printing solutions to produce all sorts of revenue-generating materials, including millions of journals, books, magazines and newspapers, as well as banners, signs and other displays, and even packaging and billboards.

Problem/Challenge

HTC’s printing systems turn out more than a billion pages a month in industries like advertising and publishing, helping businesses to express themselves, stay competitive, and grow. For a customer needing to produce thousands of pages in just a few hours, avoiding major disruptions in operations is as important as printing speed, quality, and low running costs. In order to help clients meet their high-volume printing needs along with demanding project deadlines, HTC’s products must deliver maximum efficiency.

In the past, whenever a technician operating one of HTC’s large printers experienced a problem, HTC would have to send out an expert to the customer location. This was expensive for HTC and delayed the client’s work. HTC’s current method of remote customer guidance and training involves attaching smart tablets to printers. The solution is limiting, however, since the arm supporting the device cannot bend around corners or get up close inside the machine. What’s more, the customer is tied to the physical place where the tablet is installed and must give up a hand to interfacing with the technology. HTC is therefore seeking a more flexible, hands-free solution to enhance collaboration between its printing specialists and remote end users.

Solution/Application

First step: CONNECTION

Using a solution like HPE MyRoom/VRG, a customer with a problem could connect to HTC’s support team by putting on a pair of smart
glasses and initiating the Cloud-secure application either by voice or touch. This connection would be faster and more precise than with a telephone due to the solution’s “lobby” feature as well as integration with a customer database like Salesforce.

So when a customer reaches out, he would be routed briefly into a kind of waiting room while the right SME – a support person specializing in the printer model used by that client – were connected to him. Salesforce integration would provide context—critical customer information such as past support tickets to assist in matching the appropriate SME to the end user; and multiple experts would be able to join the “room” to work out complex issues. This lobby function would enable HTC’s entire support staff to coordinate their efforts and better serve the company’s widespread customer base.

**Second: COLLABORATION & EDUCATION**

Next, the printer operator would be able to show the problem to HTC’s support engineer as if they were in the same room by sharing his view of the machine through smart glasses. He could take pictures and record video, sharing these either in real time or uploading to a knowledge base for HTC’s team to view. Oftentimes, the remote expert will be able to spot the issue and suggest equipment adjustments merely by sight; but if a more involved fix were required, the SME would be able to teach the customer what to do using augmented reality.

AR instruction would be especially useful in cases of operational or end-user errors—the printing specialist could overlay the customer’s smart glass display with visual cues illustrating which actions must be taken on the printer to resolve the issue. As the client proceeded—pressing buttons, changing settings—the SME would observe, interjecting when necessary to provide further guidance, until the machine were running smoothly again.

**Last step: DOCUMENTATION & RE-EDUCATION**

In collaborating with the remote customer via wearable and AR technology, HTC’s support engineer could simultaneously help the printer operator to patch the problem and train him on the correct use of the equipment—all while on the job. And all that occurred in the virtual “room” would be captured in audio and video format. These session recordings, stored in a knowledge base for easy access, form the final component of the solution.

What purpose would this record serve? It might serve as step-by-step
training material for the customer to replay later, or as information for HTC’s R&D team to use in developing a new product. Most importantly, should an end user have an issue he could check to see if a prior session between a colleague and one of HTC’s experts might help before ever reaching out to an SME.

A business is only as good as its employees, right? But what about the technology used by that business? A newspaper, for one, is only as good as its reporters and the technology used to “keep it in print.” There are many other businesses that depend greatly upon complex equipment like industrial printers to function and succeed; machine downtime for these organizations can make or break a project or quarter. It follows, then, that HTC’s business is only as good as the performance of its products for its customers and the support model by which HTC maintains that performance. Adopting a solution like HPE MyRoom/VRG would strengthen HTC’s ability to support its customers in the use of its printers.
Utilities / Field Service Company (FSC)

Field workers who need to learn new maintenance procedures, get updates on equipment, and receive expert guidance while in the field.

Company Description

Located on the American West Coast, FSC is a large yet family-owned and operated HVAC company that offers air conditioning and heating installation, service, and repair to commercial and residential customers in a bustling tourism economy. The company prides itself on its customer service and good reputation—the result of timely service, affordable prices, and a trustworthy and educated staff.

Problem/Challenge

HVAC is all about customer service and a killer first-time fix rate. Indeed, customer satisfaction is the lifeblood of FSC’s business; and customers are satisfied when the job—whether a check-up, repair or replacement—is done honestly and correctly on the first go.

The pressure to achieve a first-time fix falls on the field technician, who typically faces customer distrust (an unfortunate aspect of the HVAC business) and requires help while on the job—for instance, to get more information on a specific model or repair procedure. Key pain points for FSC’s business therefore include building customer trust and equipping new technicians with all the knowledge and tools they need to succeed on any job. Training these workers while in the field is not just convenient but necessary in order to save time and money.

The clientele FSC serves poses an additional unique challenge: FSC is based in a 24-hour city with a hot desert climate and numerous hotels, casinos, restaurants and other attractions in addition to residential neighborhoods. Reliable air conditioning is essential, since businesses and homeowners put a lot of stress on the systems keeping them (and tourists) cool. When the AC system responsible for regulating a popular all-night casino is on the skids, it is critical that FSC send someone qualified to get the AC back up and running in no time, the first time.
FSC could use a solution like HPE MyRoom/VRG to both guarantee a first-time fix and earn customers’ trust, no matter the level of expertise of the technician sent out to the job. Let’s see how:

Everyone benefits when the serviceperson wears smart glasses

Pain Point #1: Having the job done right the first time

The real-time voice, video and content sharing made possible with smart glasses means that the field agent responding to the casino’s service request (above) could receive fast on-the-job technical training and assistance from more experienced or veteran techs. With a solution like HPE MyRoom/VRG, an office-based senior technician could view what a new or lesser-experienced worker were doing while out in the field, providing instruction when needed and chiming in before mistakes are made. This would give FSC twice the manpower and double the assurance on every job—all while saving on training new workers and keeping its field vets at home base. How does it work?

With wearable technology and an advanced collaboration platform, one of FSC’s veterans could watch and guide a novice field worker through an entire service call; all the tech would have to do is wear his smart glasses and follow direction, whether verbal or holographic. Say the field worker had to replace a contractor, which is a regular part in most AC units—the expert could draw annotations in his field of vision to teach him how to wire the part in the field. With the possibility of live question-and-answer sessions conducted in this way via augmented reality, the job could conceivably be done right every time. On top of accomplishing a first-hand fix, the young field tech would also develop new hands-on skills for the future.

Smart-glass video as eLearning material and proof of service:

The first-person video recording aspect of smart glasses would allow for the capture of any solution-assisted collaborative efforts between FSC’s staff. Thus, a solution like HPE MyRoom/VRG could serve as both a tool to achieve a first-time fix and as a new way of capturing step-by-step training material. Even more, smart-glass-recorded service and repair calls could be live streamed not just for senior technicians to oversee but also for customers to view.

While in the field, a technician would have the ability to replay a
previously recorded diagnostic or repair of a customer’s AC unit for on-the-spot training; he could play this back from a knowledge base on his smart glasses, and even access custom-developed, pre-loaded augmented instruction manuals with the same glasses. Directions would then appear before his eyes as animated holograms guiding him through the job at hand.

**Pain Point #2: Customer Trust & Satisfaction**

It’s a no-brainer that a first-time fix benefits the customer. He or she won’t have to bear the burden of FSC’s having undertrained personnel out in the field, and can rest assured that the AC won’t fail again tomorrow. How else would the field worker’s use of smart glasses serve the customer’s needs?

Most homeowners have an inherent mistrust of service people, including AC repairmen. As mentioned above, a solution like HPE MyRoom/VRG would lend itself to a live feed customer service program, whereby the customer – wherever he is located – could watch along as the technician diagnosed and repaired his AC. Video streamed and recorded via the field worker’s smart glasses would therefore serve as proof of service; and FSC would be able to guarantee that such a live feed program won’t backfire (as well as ensure customers’ peace of mind) precisely because of the live, remote collaboration method by which the company’s veteran and new techs are able to join forces to get the job done.

It’s a fact of most utilities and field service businesses that you can’t always send your most experienced or capable agent to each and every job. The nature of a mobile workforce is that new workers require first-hand experience to learn and senior employees get older and less willing to travel. But what if you could ensure that whoever answers a call performs the job accurately and safely, with a team of qualified overseers digitally behind him, supervising and training him in real time? A solution like HPE MyRoom/VRG would provide that foolproof method whereby the job is done right the first time, earning customers’ respect, trust and loyalty.
When it comes to a solution like HPE MyRoom/VRG, there are different groups of end users who might benefit from adopting.

There are enterprise organizations that might employ the solution to enhance collaboration and training among their own distributed workforces. Then there are companies who need such a solution to support remote customers and end users, including dealers, of their products or services.

We’ve seen these two types of adopters already. In addition, there are companies in the business of providing enterprises with software and other services designed to improve how those businesses operate.

These companies might help their clients implement a solution like HPE MyRoom/VRG, thereby serving as a kind of middleman; or they might build upon the solution to suit their customers’ needs. EC is one such company.
eLearning Company (EC)

*Enterprise solution providers who need an advanced, wearable tech-friendly collaboration platform to meet customers’ needs.*

**Company Description**

EC is a provider of advanced augmented reality telepresence software to enterprise organizations. Essentially, EC is in the business of developing custom remote support and e-training solutions for businesses in the form of augmented and mixed reality applications on mobile, tablet and wearable devices.

EC recognizes that every business is unique, requiring a training solution custom-fit to how its workforce operates; and so its team works one-on-one with clients to apply the company’s product – an AR- and mixed reality-based platform – to their individual business styles and goals.

**Problem/Challenge**

Enterprises have long turned to digital solutions to accomplish remote support, or connecting experts to end-users to maintain critical enterprise systems. Of course in industries like transportation and oil and gas, issues tend to arise when the experts are located miles away. Traditional methods of digital communication, however – including phone, email and videoconferencing – are cumbersome and inefficient for remote troubleshooting. Those on site struggle to clearly convey the problem, while the remote support technicians find it hard to properly teach a solution. In the meantime, organizations lose billions of dollars due to equipment downtime and other business disruptions.

When learning a new task such as a repair technique, it’s more natural and effective to learn from another person as opposed to a two-dimensional diagram. But calling an SME is not enough—the instructions involved would be esoteric and difficult to speak over the phone; and, anyways, the brain tends to understand 3D visual cues much better and faster than auditory ones. This is where EC’s telepresence platform comes in, offering the feeling of having a live person there to assist you, with easy-to-follow, interactive visual cues overlaid onto the real world.

The problem is that EC’s enterprise clients require a secure, turnkey solution flexible enough to suit a variety of workers – with different
modes of working – such as make up a modern industrial workforce. EC’s strength lies in augmented reality development; so to make its platform more effective, the company could incorporate a solution like HPE MyRoom/VRG.

Solution/Application

How would EC’s product work with a solution like HPE MyRoom/VRG? EC focuses more on the AR side of things, i.e. customizing an application by which remote experts can convey information to workers in real time and four dimensions. The combination of EC’s AR telepresence software and a collaboration solution like HPE MyRoom/VRG would amount to a complete end product for enterprise organizations, with the latter providing a secure connection, knowledge base integration and the ability to work across a range of devices; and EC developing unique AR content and supporting enterprise clients through the implementation process.

Say a complex machine at a mining site is not working properly. The on-site employee could use a pair of industrial-grade smart glasses to send a live, full-color 3D stream of what he is seeing to a support technician on the other end of the HPE MyRoom/VRG connection. EC’s AR software would process this photo and video data, enabling it to be manipulated by the remote expert from, say, a desktop computer or specialized AR device. For instance, he could overlay arrows, highlights and text onto a 3D model of the machine; and by anchoring such annotations and digital elements into the worker’s view (over the actual problem), teach him how to repair it.

What advantages would a solution like HPE MyRoom/VRG deliver? Probably the greatest advantage would be the ability to save session recordings and upload resources to a knowledge base, which could be accessed at any point, on any device. EC would develop the AR software application with the client, including certain tools or functionalities, such as the ability to drag and drop rich media (arrows, images, labels) and draw freehand in someone’s field of view, depending on the nature of the customer’s business. Thanks to HPE MyRoom/VRG, all AR-assisted interaction between remote expert and end user would be recorded and turned into e-learning material re-playable from a database. In addition, end users could access AR content such as animated 3D models of complex parts or CAD files—this content would be custom-developed for e-learning by EC and supported live by the company’s SMEs through MyRoom.
Looking Ahead

EC is in the business of helping its clients meet their business challenges, which – especially in the industrial and manufacturing industries – often include providing superior support to workers in the field. To enhance its own AR telepresence platform, EC could adopt a solution like HPE MyRoom/VRG, by which end users would be able to access customized AR content created by EC; reach out securely to remote experts; communicate with colleagues in real-time via augmented reality, and save everything for future reference—and all while working in the manner most convenient to them, whether that be with one hand, two hands, or hands-free.
HPE has learned a lot from our customers. We have introduced a set of new capabilities in our MyRoom/VRG solution which we think of as platform essentials for wearables in business. Here are some of the second-generation platform capabilities that we would advise you to require in your next wearables project:

License and connect wearable to enterprise in under 5 minutes, such as:

- Connect wearable to your Wi-Fi network
- Install VRG from a web portal onto the device
- Run VRG and exchange "Quick Code" to license wearable in < 1 minute
- Get started!

Wearable asset management, which can turn into a complete nightmare if not managed well at scale. The application platform can make this easy through:

- Serial number and manufacturer/product name capture, automatically, when the device is first registered
- GPS location is logged every time the wearable connects
- Wearable can be blocked from connecting

Automatic Over-the-Air (OTA) updates of the software on-board the wearables; to make this practical be sure to require:

- Updates can be applied or delayed
- Update can be auto approved and installed

Remote control of the various features found on the wearable devices, including:

- Audio (on/off)
- Video (on/off, resolution, zoom, snapshot), and
- Flashlight (on/off) can be controlled by the desktop SME collaborating with the wearer

Network performance visibility:

- Monitor network performance and provide visual indicator of connection strength

For more information on how HPE MyRoom/VRG solution can help accelerate your organization’s use of wearable technology, visit our web site at:

MyRoom download page: https://www.myroom.hpe.com/Profile