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"WITH RIEDEL'S UNIFIED TECHNOLOGY APPROACH AND INDUSTRY-LEADING INNOVATION AT THE HEART OF THE OPERATION, WE COULD DELIVER THE BEST POSSIBLE EXPERIENCE FOR ESTABLISHED AND NEW FANS OF THE SPORT OF SAILING."

Stephen Nuttall | Managing Director, Production and Media Rights, America's Cup



36TH AMERICA'S CUP
PRESENTED BY
PRADA





FEEL THE **ACTION**

■ Riedel's leading-edge hardware and software technologies were at the core of the 360-degree concept for the coverage of the 36th America's Cup presented by PRADA, provided for the event by host broadcast partner circle-o. The concept included an innovative technology approach combining live TV production, event infrastructure, and race management for the premier sailing event in the Hauraki Gulf off Auckland, New Zealand.

Riedel delivered innovative camera solutions, new audio technologies, and sensor technology embedded in a comprehensive technical infrastructure. This was supported by an on-site team of 30 members managing all audio, video, communications, tracking, and data transmission systems, including signals from on-board cameras, chase boats, and helicopters. Since all camera, microphone, and transmission systems had to withstand extreme marine conditions, Riedel provided bespoke equipment aboard each competing yacht.

To achieve this, Riedel harnessed the combined horsepower of the Riedel family of solution providers, ranging from Pidso's antennas and radar systems over Igtimi's GPS tracking technologies to highly specialized nautical know-how from Riedel's Porto R&D hub. Entrusted with the overarching technology concept for the America's Cup coverage, Riedel also closely integrated services and technologies from other technology partners into the extensive production infrastructure, including well-respected manufacturers like iXblue, Sennheiser, and Lawo.

In addition to on-site engineers, Riedel also provided extensive remote support from its award-winning Remote Operations Center (ROC) in Wuppertal, Germany. The ROC served as a monitoring and engineering hub through which operators can remotely access the entire system setup in Auckland, including video, audio, and intercom signals. This enabled the ROC team to monitor and control essential parameters of the equipment aboard the racing yachts, including camera control, audio setup, GPS data transmission, and battery management, and support the on-site crew in optimizing system performance.



"We're thrilled to play such a foundational role in this year's battle for the America's Cup, the world's oldest international sporting trophy"

Thomas Riedel
CEO and Founder
Riedel Communications.

"Decades of experience in the most demanding production environments culminated in this very special project with very special challenges. Together with our partner suppliers, all of whom represent the global standard in their fields, our team has created a seamless production infrastructure that is enabling circle-o to take its live coverage to thrilling new levels. Their stunning coverage opened up entirely new perspectives on sailing and perfectly illustrated the great impact technology can have on entertainment formats and the tangibility of sporting events."



Riedel ROC (Remote Operation Center)

Stephen Nuttall, Managing Director, Production and Media Rights, America's Cup added, "With Riedel's unified technology approach and industry-leading innovation at the heart of the operation of the 36th America's Cup, the premier sailing competition, we were able to deliver the best possible experience for established and new fans of the sport of sailing."



WELCOME TO THE FAMILY!

Riedel Americas Expands Sales, Support, and R&D Teams and Moves to New Spacious Offices in Santa Clarita and Montreal

Over the last two years, Riedel has demonstrated a strong commitment to the Americas market. To better serve its customers in the region, the company moved its North American headquarters from Burbank to a 14,000-square-foot space in the Santa Clarita Valley. This was followed by several key personnel additions throughout designed to expand Riedel's presence in the Americas, while maintaining unmatched levels of service and support.

In addition, to step up its R&D efforts and help Riedel secure a leading position in the video market, the Riedel Montreal team moved a spacious and modern new office in Montreal that offers over 20 000 square feet and 120 workspaces. The new office features a spacious lab and manufacturing area, new demo room,

green room dedicated to filming, multiple collaborative rooms and creative spaces, and more. As with its sales and support team, Riedel has significantly reinforced its R&D team with numerous personnel additions.

To further penetrate the Americas market through the development, implementation, and measuring of localized marketing strategies, Sara Kudrle joined Riedel as Senior Marketing Manager, Americas. As Sales Operations Manager, Kirsten Ballard is helping lead the company's sales efforts in the region, while Richard Kraemer and Josh Yagjian joined Riedel as regional sales representatives. Richard is overseeing sales in Canada, while Josh is helping to cover accounts in the Northeastern region of the U.S.

To ensure Riedel's stellar service and support isn't outpaced by its rapid growth, David Perkins was named Manager of Service and Support for Riedel Americas. In this role, he

oversees the company's internal technical support and service teams while enhancing the processes and practices used to set and exceed customer satisfaction goals.

Riedel's service department was further bolstered with the addition of Maer Infante and Anees Bhaiyat as Service and Support Specialists, which has freed up Joshua Harrison to transition into a system consulting role. Finally, to maintain warehouse inventory and ensure accurate and on-time product delivery, Gene Arrington joined the company as Logistics Specialist.

To further advance Riedel's R&D efforts, the company has named Sebastián Roberge as Head of R&D, Montreal. He brings with him more than 10 years of experience in director roles with Grass Valley and Miranda Technologies. Also from Grass Valley, software designers Mathieu Grignon, Tracy Bertrand, Marc-André Parent, and Simon Provost have joined Riedel in Montreal. Together with new QA Specialist Waleed Abdullah, they have formed the company's all-new Software Control Team. At the same time, the Hardware Team has expanded with the additions of Senior Hardware Designers Jean-

François Garcia-Galvez and Valère Saily.

To help Riedel continue its exploration of emerging technologies and reach out to new markets, the company has named Mathieu McKinnon as Senior FPGA Designer and Antonio Jimenez as SQA Engineer. In addition, Rick Snow and Xavier Désautels have joined Riedel's NPI Team as Team Manager and Software Developer, while Senior Technical Writer Kevin Journaux will help the R&D team with documentation production and updates.

Welcome to the Riedel Family!
Bienvenue à la famille Riedel!

BIENVENUE A LA FAMILLE!



The Software Control Team & guests (left to right): Sébastien Roberge, Arne Bönninghof, Karine Bélanger, Waleed Abdullah, Tracy Bertrand, Mathieu Grignon, Johan Wadsten, Mathieu Levesque, Marc-André Parent, Kim Cunningham



Anees Bhaiyat



David Perkins



Kirsten Ballard



Gene Arrington



Katrina Littell



Richard Kraemer



Travis Cordova



Tavis Sanders



Maer Infante



Sara Kudrle



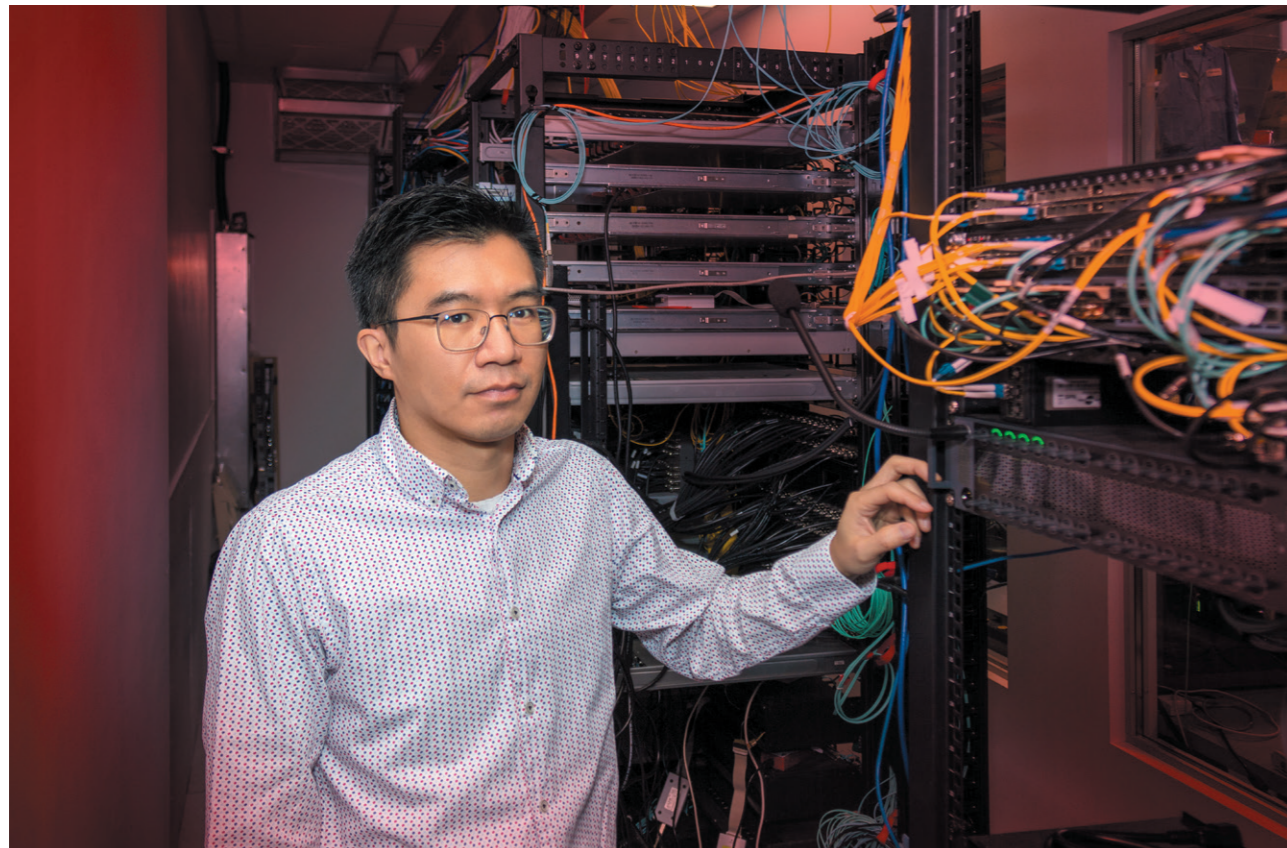
Joshua Harrison



Josh Yagjian

CURIOUSITHI IS KEY AT THE RIEDEL MONTREAL INNOVATION LAB

■ Sithideth ,Sithi' Viengkhou is an engineer by passion. The technology enthusiast is one of the earliest members of the Embrionix team and has accompanied its journey from a small startup to what it is today. When Embrionix joined Riedel, Sithi took over a great deal of responsibility and proved absolutely vital for the successful integration of Embrionix's team and IP products. So it's about time you all get to know this amazing inventor and innovator!



Hey Sithi! Tell us a bit about yourself. What's your passion and how did bring you where you are today?

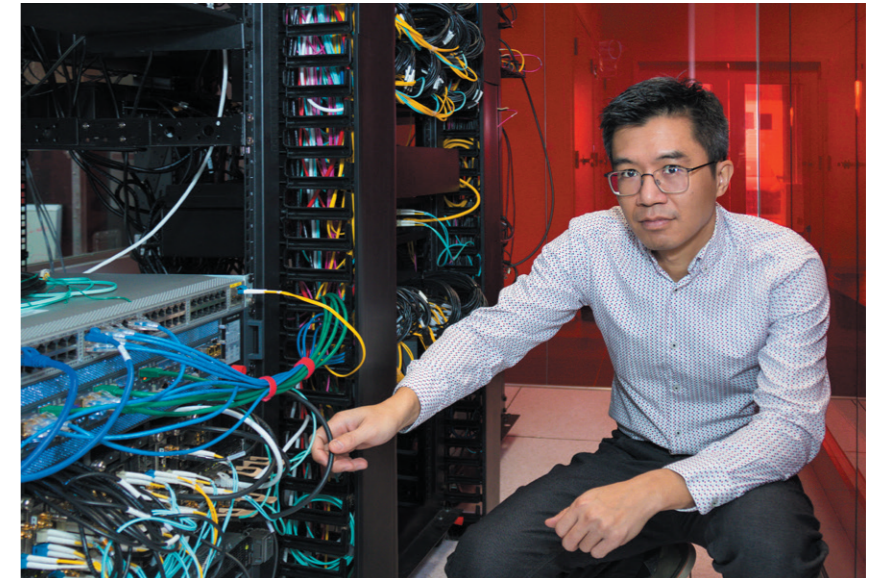
Sithi: Hey! I would describe myself as someone who likes exploring new things, and that's why I became an engineer. I've always been driven by playing with new things, exploring new avenues and finding fresh solutions. So I'd say my passion is learning and inventing new stuff and bringing it to the world.

You've been with Embrionix almost since the very beginning, accompanying its journey from a small pioneering startup to what it is today. Now that you are part of the Riedel family... What's different? What has stayed the same?

Sithi: I guess one thing that is different is that we have more resources. And I don't just mean financially, but also in terms of the sheer amount of brilliant minds that you can tap in. Riedel has over 200 engineers, and it's just amazing how easily accessible they are whenever you need an expert opinion. Everyone's is busy, but they will always take the time to get their brain picked – I love it! What has stayed the same, at least in my own personal work environment, the innovation lab, is that we have retained that startup spirit where everything is possible. Here, it feels like we're pretty much a startup within a bigger organization.

Over the years, you contributed to a lot of groundbreaking innovations and patents. Which of them are you most proud of?

Sithi: Hmm... pretty much all of them that helped fix a real-world issue, like the PTP to Black Burst solution we invented for CBC (Canadian Broadcasting Corporation). CBC needed an analog Black Burst sync reference distributed across their infrastructure while transitioning to IP, and back then, there was just no way physically do that. So we took the sync reference from the IP world and transferred it to a standard SDI infrastructure. That's not something where people would say: "Wow, that's super hot and nobody ever thought about that." But it's a small innovation that fixed a real problem and is now used throughout the broadcast world.



You already touched upon the Technology Innovation Lab team. You moved there from your position as head of R&D Montreal. What was this move about? And what has changed for you since then?

Sithi: I guess it comes down to what drives me... you know, learning and inventing new stuff. And I just had the feeling that I have more impact if I'm right there in the trenches, doing research and finding new solutions. In the innovation lab, whatever we can think of that might help Riedel and our customers, we can try to make it happen. We can just be crazy and creative and aren't that tied to rigid structures or processes. Another cool thing is that although we have a small permanent team, we also have temporary, rotating engineers to do research with us on a project basis. So we always switch things up and bring in new perspectives and expertise from the R&D teams in Montreal, Vienna, Wuppertal or Zurich. That's the beauty of the innovation lab and the leeway that Riedel gives us.

If you were to write your memoirs, what would be the title of the chapters on Embrionix and Riedel Montreal?

Sithi: Hmm... I guess the Embrionix chapter would be titled: No challenge is too big. And the one on Riedel Montreal would be: Being more mature about things (laughs) It's kind of a story about moving from the phase of adolescence to adulthood when you start to have proper responsibilities.

What do you think are the emerging technologies that will change the face of the broadcast industry in the next few years?

Sithi: I think compression will play an ever-growing role in the near future. If we find a vendor-agnostic way to bring stuff from a standard studio or any physical infrastructure to a cloud-based environment, this will really make a difference to users and really drive the market. If one doesn't have to think about what's inside the packets and what protocols are being used, this will open up a world of flexibility.

Where do you see Riedel Montreal in 2025?

Sithi: Hopefully we'll have kept growing and filled up the extra space we have here in Montreal. And I see Riedel Montreal being a real contribution to the growth of Riedel at large, especially in the IP, software and control world where I think we can bring in a lot of expertise. I'm convinced that by 2025 we'll have initiated a lot of exciting new collaborations with the other R&D teams. The Montreal team comes in with a clean slate and can bring a breath of fresh air into established processes. Anyway, I'm super excited about what is to come!



INTERSTELLAR COMMUNICATIONS BOLERO ON SET OF **THE EXPANSE**



■ Renowned director of photography Jeremy Benning has adopted Riedel's industry-standard Bolero wireless intercom to facilitate crew communications on the set of the popular Amazon Prime Video series "The Expanse." Bolero provides flexible, clear, and reliable multichannel communications for all members of the production crew, enabling maximum productivity from any on-set location.

Previously, individual teams on "The Expanse" each had their own communications methods, ranging from HME wireless intercoms to walkie-talkies to face-to-face conversations. By combining all of these methods into a single, unified solution, Bolero enables crew members to maximize their time on the set and removes misunderstandings and delays.

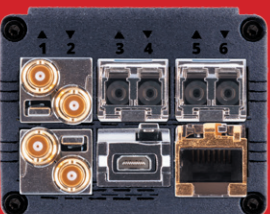
"The ability to communicate instantly, clearly, and effectively is a critical requirement to keep any film or episodic series on schedule. We knew we needed more efficient, zero-compromise comms capabilities in today's new world, and after extensive testing and comparison with other leading systems, Bolero was hands-down the best tool for what we needed," Benning commented. "Not only does Bolero have excellent audio quality and an ultra-low noise floor, it's also super-easy to control the entire system through the intuitive user interface."



The Bolero system on the set of "The Expanse" consists of 26 beltpacks and four antennas. The crew has fully embraced the capabilities of Bolero in stand-alone mode; for instance, the audio feed from the sound mixer is patched in to allow all connected departments (camera, grip, lighting, producers, director, assistant directors, script, and video playback) to listen to actors' dialog whenever they need to. In addition, the production uses Bolero to feed the "voice of God" speaker for delivering announcements to the entire shooting crew, and the director and script supervisor use a wireless talk-back speaker to give notes to the cast.



PART OF THE PROJECT



FUSION

The FusioN series of compact standalone I/O and processing devices can be configured with a range of software apps to act as IP gateways, encoders/ decoders, or as IP multiviewers. Due to their small form factor and low power consumption, the devices can be placed close to signal sources or destinations, creating powerful efficiencies in any production environment.

BIG IN JAPAN

Mixi Bets on FusioN

■ **Riedel's MediorNet FusioN 6B Helps Mixi Lower Costs by Enabling Automated Live Streaming of PIST Bicycle Race Tournaments**

Mixi is a leading Japanese social media platform. At the forefront of technology, the company utilizes advanced AI capabilities to optimize its online platforms, including the popular TIPSTAR online betting solution. Recently, Mixi made the decision to bolster its AI capabilities with a full IP system for the live streaming of PIST bicycle race tournaments, which would allow the company to automate nearly all of its betting, race management, and video production workflow.

Not only would this automation lower costs, but it would free up AI skills that Mixi could transfer to other areas of its operations, allowing the company to focus on creativity and expand its service offering. For baseband-to-ST2110 conversion in the system — while providing a fiber optic connection between Mixi's Tokyo-based data center and its production studio — the company deployed the compact Riedel MediorNet FusioN 6B gateway within its video production workflow.

"We did our due diligence and explored a number of solutions to provide baseband-to-ST2110 conversion for our TIPSTAR service. With its space-saving design, low cost per port, and ease of management, the FusioN 6B was an easy choice," said Taichi Sato, Infrastructure Division Development Operations Network Development Group at Mixi.

The MediorNet FusioN 6B is a versatile standalone gateway that can be configured with a selection of inputs and outputs from Riedel's range of SFP I/O modules, as well as with a variety of processing apps, to deliver the signal processing capabilities Mixi requires. The bulk gateway is capable of treating up to eight gateway conversions for HD/3G signals — or up to two UHD signals — and is equipped with two fiber links that can be configured at 10GE or 25GE data rates.

The FusioN units are located in Mixi's data center, where 50 fully redundant H.265 PIST bicycle race tournament feeds are transmitted from different racetracks around the nation. The incoming feeds are decoded into baseband signals and edited in real time with Mixi's Breezecast system, which creates highlights and adds captions. The baseband signals are then converted to the ST2110 format by the

Riedel FusioN 6Bs and sent to Mixi's MOANI system for conversion to WebRTC. In addition, the devices' fiber links allow Mixi to connect its data center and production studio via two fiber optic cables, each at 100Gbps.

"With the FusioN gateway in our workflow, we've realized a fully automated video streaming system that greatly lowers the cost of deployment by dramatically reducing the number of operators required," added Sato. "And by lowering our operational costs, we're able to further enhance the customer experience by investing in new betting platforms like boat racing and basketball."



INTO THE RED ZONE

■ Artist and Bolero Provide Sophisticated Communications System for Super Bowl LVI

The Super Bowl is the single biggest sporting event on Earth, and over its 56-game history has transformed into a cultural phenomenon that transcends the action taking place on the field. For example, the halftime show has become a stage for the biggest musical artists on the planet to perform. And this year was no exception, with Dr. Dre, Snoop Dogg, Eminem, Mary J. Blige, and Kendrick Lamar all taking the stage together in Los Angeles.

Bringing all of the event's elements together — from performing artists to NFL officials and other entities supporting the venue, networks, and halftime show — requires a highly sophisticated comms and networking system that ensures a strong connection between belt packs and antennas, while keeping track of which belt packs are on a given frequency and how many slots are open. To meet

these challenges at this year's Super Bowl, SoFi Stadium, Van Wagner, NFL Network, the halftime show, and officials on the field relied on Riedel's Artist intercom system and 140 Bolero wireless belt packs featuring exclusive ADR technology optimized for challenging RF environments.

"The main challenge when operating in the gigahertz range with RF is multipath reflections," explained Rick Seegull, vice president of system consulting at Riedel Communications. "Our ADR technology can distinguish the proper path back to the antenna, as opposed to destructive reflections. This assures the strongest connection between the belt pack and antenna, and antenna diversity in the belt pack guarantees the connection will remain."

Another challenge at the Super Bowl was meeting the NFL mandate that no more than 48 units operate in the bowl at one time. The NFL was using 14 belt packs — seven for officials, with another seven live back-ups. Halftime show crew had to keep the balance of their 70 belt packs off until the two-minute warning, where they were able to power up Bolero packs for key positions. They turned on the rest once the officials left the field.

To keep track of which belt packs were on a given frequency — and how many slots were open — Riedel's Dan Bakies used Riedel's Radio Scanner Application onsite at the game. In addition to Bolero belt packs, the application was used to track non-Riedel DECT devices that were in use.



"With our Artist intercom system and Bolero wireless belt packs, we were able to deliver crystal-clear communications in one of the noisiest environments imaginable. By keeping track of usable DECT space and managing multiple systems in a single space — all while nullifying deconstructive interference — officials, halftime show, and in-house stadium production crews were able to operate efficiently and provide fans with one of the greatest spectacles on Earth."

Rick Seegull
Manager System Consulting
Riedel US

WORLD PREMIERE FOR RSP1216-HL SMARTPANEL AT THE HISTORIC THÉÂTRE DU CHÂTELET



■ The landmark Théâtre du Châtelet in Paris has adopted a full suite of Riedel's award-winning communications and video signal routing solutions. Riedel's Artist digital matrix intercom, SmartPanel user interface, Bolero wireless intercom, and MediorNet real-time network ensure crystal-clear, flexible, and reliable crew communications and effortless video distribution during Théâtre du Châtelet performances.

Located in the 1st Arrondissement on the banks of the Seine, the Théâtre du Châtelet was built on the site of a small fortress and opened in 1862. In its current configuration, the auditorium seats 2,038 people and plays host to a broad range of opera and theatre performances, concerts, and events such as galas and award ceremonies. The Théâtre du Châtelet recently underwent a major renovation, including an update of the entire networking and communications infrastructure, and settled on the Riedel solutions after an exhaustive evaluation process.

"For this upgrade, future-proof systems were extremely important. That's why we took our time with testing; we were looking for solutions that can accompany us for the next 20 years," said Stéphane Oskeritzian, Head of Sound, Théâtre du Châtelet. "We chose Riedel not only because their solutions performed the best in our tests, but also because we were searching for a solid partner. After visiting Riedel's headquarters in Germany and having very open, constructive dialogue with their creative and innovative people, we felt confident that a partnership with Riedel could be just what we had been looking for."

The new Riedel Communications installation at Théâtre du Châtelet is anchored by an Artist-128 matrix intercom mainframe, which enables seamless AES67 and Dante connections over the theatre's IP network to the Bolero wireless intercom system and additional Riedel Performer digital partyline solutions. Riedel's SmartPanel 1200 series of intelligent user interfaces plays an important role in the installation; in fact, the Théâtre du Châtelet represents the world's first in-theatre installation of the all-new SmartPanel RSP-1216HL, offering complete SmartPanel functionality and user-friendliness in a compact 1RU form factor. The theatre manages its intercom environment using 15 RSP-1216HL and five RSP-1232HL panels.

Cyril Auclair, Deputy Head of Sound, Théâtre du Châtelet, commented, "We thought the RSP1232 was just what we were looking for, with features such as hybrid lever keys. But then we heard that a compact 1RU version was coming up, and we knew: This is it. The RSP-1216HL is practically made for our operations."





A RACE CAR AT 200 KM/H ...WITH **NO ONE** IN THE SEAT?

DTM Remote Run

■ When the remarkable 1200-horsepower, fully electric DTM Electric Demo Car took to the 4,326-meter long Red Bull Ring in Spielberg, Austria, earlier this month, Riedel Communications' networking and communications technology enabled DTM Trophy champion Tim Heinemann to drive the car remotely using a state-of-the-art simulator 82 kilometers away. The race car completed a breathtaking driverless lap at speeds of up to 180 km/h during the cutting-edge demonstration, the "DTM Electric Remote Run" presented by DTM and Schaeffler prior to Saturday and Sunday races at the Red Bull Ring.

Riedel technology connected Heinemann and the simulator at the AVL Racing facility in Graz with the racetrack and supported wireless connections between the pit lane and the race car. Operating close to the speed of light, the fully redundant Riedel IP wireless system carried video, communications, and the remote car control signals with the highest possible reliability.

"Latency was the biggest challenge we faced in making this demo work, followed by network stability — ensuring all signals were received, all the time," said Michael Resl, director of competition & technology at DTM. "As experts in networking and communications solutions and the mission-critical transmission of audio, video, and data signals both wired and wireless, Riedel was cut out for the job."

The car was controlled by using Schaefflers drive-by-wire solutions, amongst it the well-known "Space Drive" technology eliminating the need for a physical link between the steering wheel and the front wheels. This technology opened the door for a pioneering demonstration of a remotely controlled racecar. The Riedel IP wireless system supported ultra-reliable, low-latency transport of data, and the company's Bolero wireless intercom system and SmartPanels facilitated flexible, high-fidelity communications for teams working at the simulator site and at the racetrack.



The simulator in Graz



At the Race Track in Spielberg



"Reducing latency enough to remotely control a race car moving at 180 km/h required the most cutting-edge wireless technologies and expertise. At this speed, 20 milliseconds of latency in the connection translates to a meter traveled," added Matthias Zink, CEO Automotive Technologies at Schaeffler. "Large, well-known telecommunications companies were not up for the challenge, but Riedel stepped in and made it possible. This groundbreaking remote run is sure to provide new impetus for the future of racing, in terms of both e-mobility and remote and autonomous driving."

"When it comes to pioneering technology, testing boundaries, and entering unknown territory, we are there," said Lutz Rathmann, director of the Managed Technology Division at Riedel Communications. "We live to push the boundaries of the possible and to enable our customers to achieve their creative visions. That's why we are delighted to be part of this exciting project, which absolutely depends on the data, audio, and video streams being as reliable and fast as physically possible."

STUDIO BERLIN

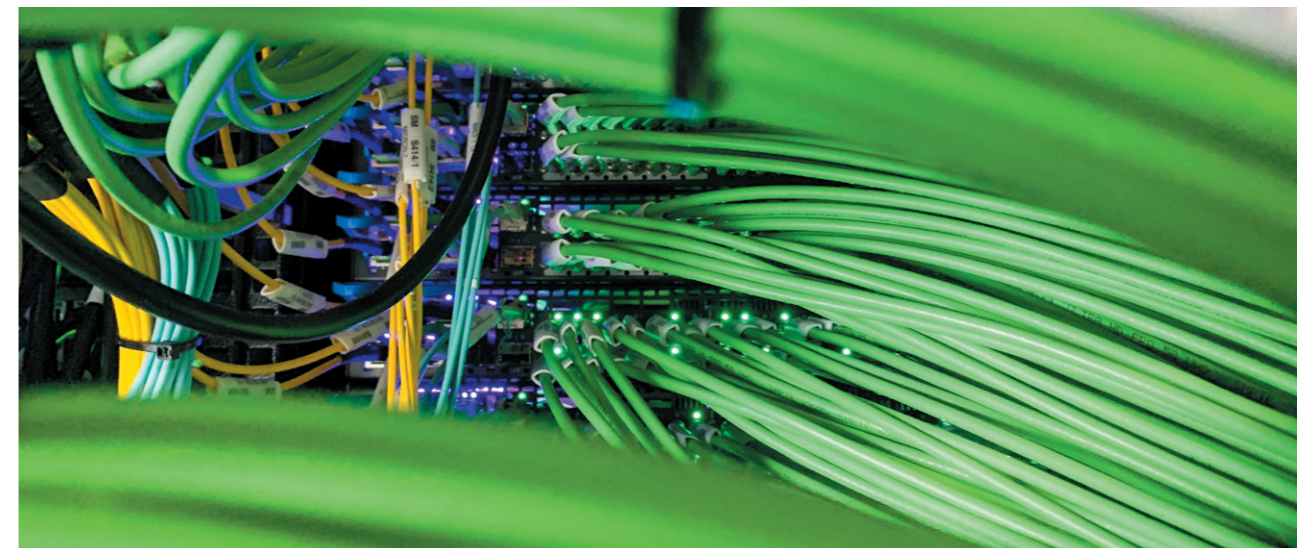
■ Riedel's MediorNet MicroN UHD Delivers Decentralized Signal Routing to Save Space in Studio Berlin's New Ü10 Truck

MICRON UHD

PART OF THE PROJECT



MicroN UHD is the next generation of MediorNet signal distribution and processing devices. Building on Riedel's distributed and software-defined concept, this new node adds more bandwidth, more I/O, higher resolutions, and more processing power to the MediorNet platform.



Live production teams have faced unprecedented challenges in the COVID-19 era, including the need to provide safe, socially distanced working environments for crews that don't hamper their workflow. For its new Ü10 UHD/HDR OB van, Studio Berlin — a German live TV production solutions provider — took an innovative approach to this challenge with a unique two-vehicle design. To provide production crews with a safe, spread-out working environment in the OB van's control room, the company housed ten racks of complete equipment in a separate trailer, with a fiber optic interlink connecting the two.

With space at a premium in the Ü10, decentralized routing was a must. To provide it, Studio Berlin turned to Riedel and the company's MediorNet MicroN UHD media distribution and processing solution. MicroN UHD is the latest generation of Riedel's award-winning MediorNet MicroN family of modular, high-density signal interfaces, bringing more bandwidth, more I/O, higher resolutions, and more processing power to the MediorNet platform.

Studio Berlin's Ü10 is outfitted with 38 MicroN UHD modules. Eight are being used as stage boxes, while several others have been configured as multiviewers using the MicroN UHD MultiViewer App. To save additional space, Riedel's flexible MediorNet MicroN UHD system is split between the two vehicles. As a result, the Ü10 can accommodate up to 26 workstations — and 24 UHD cameras — while maintaining a maximum distance between them.



"While centralized solutions feature large, fixed designs with intensive cooling requirements, the distributed architecture of Riedel's MediorNet MicroN UHD allows us to start small and scale the system with additional modules as needed," said Matthias Alexandru, Technical Manager at Studio Berlin. "Furthermore, it enables production teams to collect and distribute all stage box signals directly from where they originate. With centralized solutions, this process requires additional hardware that adds weight, reduces flexibility, and increases costs."

Studio Berlin's Ü10 made its debut at the German Television Awards in Cologne and will primarily be used for live coverage of the German Soccer League (Bundesliga) and other large sporting and entertainment events.

A FRIEND OF THE DEVILS IS A FRIEND OF MINE

■ Hockey is a fast-paced, loud, and rugged sport, and its fans love a good show. For crews behind the scenes, coordinating a production that meets their expectations requires clear communications across cavernous venues full of concrete, steel, and ice. It's a formidable enough challenge when arenas are empty but is all the more daunting when they're full of shouting people. To overcome it and deliver a dazzling display for their fans at the Prudential Center, the New Jersey Devils added Riedel Communications' Artist intercom system, Bolero wireless beltacks, and MediorNet distributed routing to their first line.



The team at the Prudential Center utilizes Riedel's Artist intercom system with Bolero wireless beltacks — featuring advanced DECT receiver (ADR) technology — for precision communication around the entire venue with incredible range and clarity. During a given production, 26 or more team members can be simultaneously connected and conversing.

"Riedel has really upped our game," said Katie Arsenault, Manager, Live Experience and Production for the New Jersey Devils and Prudential Center. "I can be in constant communication with everybody I need to, which ultimately helps me direct a better show by allowing me to give direction to anybody at any time. And the sound is crystal clear, far beyond other systems I've used."

"Being able to hear wherever you are is a blessing that gives you the opportunity to do more," added Joe Kuchie, Director, Live Experience and Production for the New Jersey Devils and Prudential Center. "When we invested in the Riedel system, we did some testing and the range that this system gives us is phenomenal. It's something that we're really proud of and gives us the opportunity to do more in the building."

In addition to its intercom system, the team is utilizing Riedel's MediorNet distributed router for handling all video sources — currently about 50 — within the building. The router consists of five MicroN nodes in a single rack, emulating a centralized router, with another node located remotely in the studio. The ability to distribute nodes wherever needed allows the system to grow as new areas or functions are added.

"To make sure we had the ability to expand in the future, we wanted a system that would grow with us; we got what we were looking for and then some," said Kuchie. "When we invested in Riedel, we knew their products were great and that the company had an excellent reputation across the sports industry. What we didn't know was how much we would love our intercom and routing systems and how quickly we would be able to use them. Once installed, we were able to jump right in without any growing pains or other issues."



ESC AHOY!
RIEDEL ABOARD
THE ROTTERDAM
AHOY ARENA

EUROVISION
SONG CONTEST
ROTTERDAM 2021

■ For the 15th year, Riedel Communications provided advanced intercom and signal distribution technologies and on-site engineering support for the record-breaking 65th edition of the Eurovision Song Contest (ESC). Staged May 18-22 at the Rotterdam Ahoy, this year's broadcast marked the ESC debut of several new Riedel solutions, including the top-of-the-line Artist-1024 intercom node and SFP modules from the new MediorNet IP range of signal processing solutions.

Back after a pandemic-induced cancellation in 2020, the 2021 Eurovision Song Contest drew an audience of 183 million viewers across 36 markets — with a live audience for the Grand Final show on May 22 that was an estimated 4% higher than that of the 2019 competition. Riedel supplied a complete solution that included not only intercom and signal distribution, but also accreditation, access control, commentary systems, and a comprehensive IT infrastructure for staff, broadcasters, and attending press members.

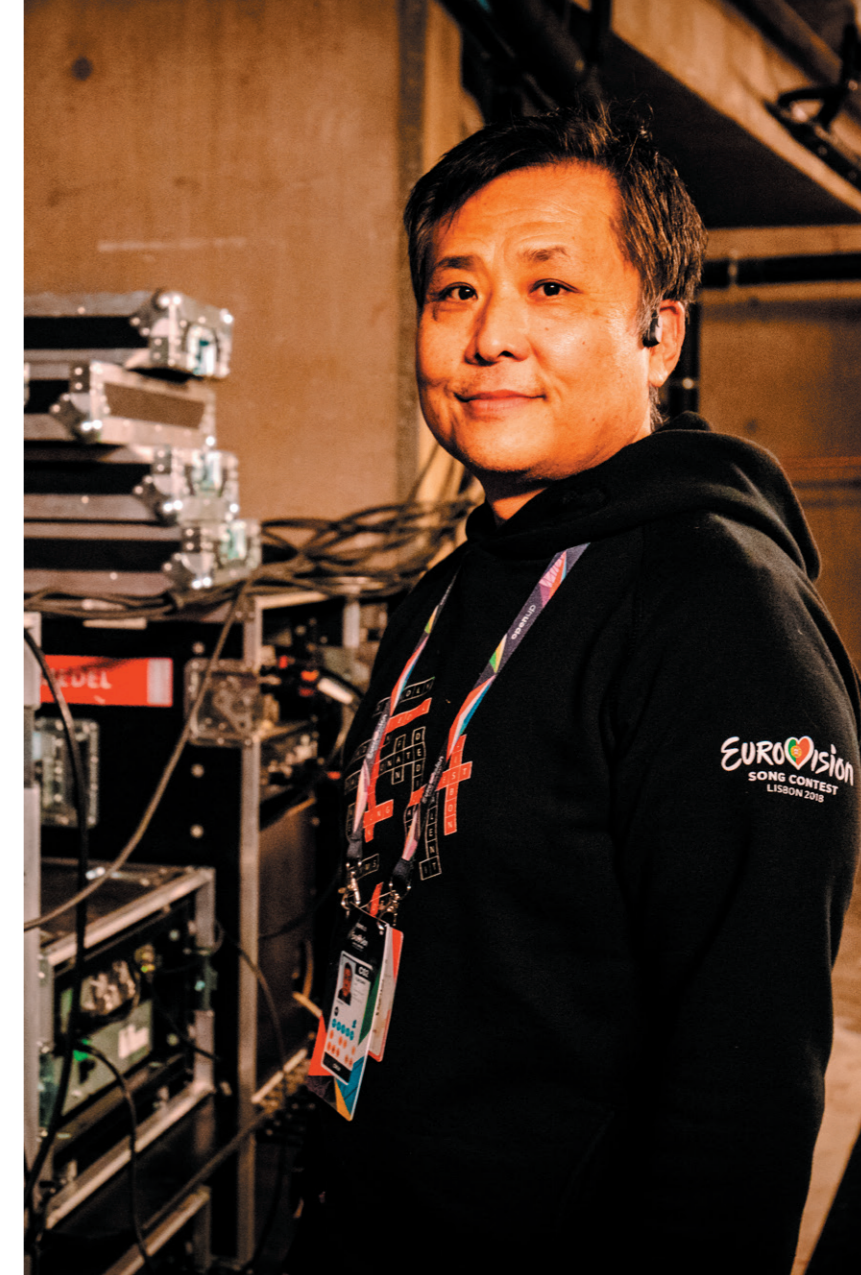
In addition to managing radio communications, distribution of images inside the Ahoy Arena, and delivery of audiovisual signals for broadcast and production, Riedel outfitted commentator booths and oversaw communication with the master control rooms in each of the countries that customized the EBU broadcast. In addition, Riedel introduced several COVID-19 prevention measures designed to protect all technical team members and minimize the risk of infection at accreditation and access control points.

This year's ESC production included 24 cameras together with 130 video feeds, 140 intercom panels, 75 microphones, 1,800 luminaires, five mobile units, a technical operations center, three support vehicles, and 60 EVS channels — a setup designed to shape a signal that could be seen all over Europe, Australia, and the USA with incoming connections from 40 different countries.


The Riedel Artist-1024 intercom node supplied the highest-possible intercom port density as well as full AES67 compliance, a critical capability, as this year's ESC production was the first to leverage an AES67 audio network. The IP-based signal transport mechanism complementing a 60-node MediorNet MicroN network relied on Riedel's MediorNet MuoN SFP gateway and processing devices and MediorNet FusioN stand-alone I/O and processing devices. At Ahoy, the MuoN modules were configured with Riedel's SMPTE ST-2110-compliant MADI bidirectional gateway app, providing encapsulation and de-encapsulation of MADI signals to IP for commentary. The FusioN devices acted as 16-image SMPTE ST-2110 multiviewers and enabled video distribution inside the ESC commentary control room.



Our Riedel Team for Rotterdam

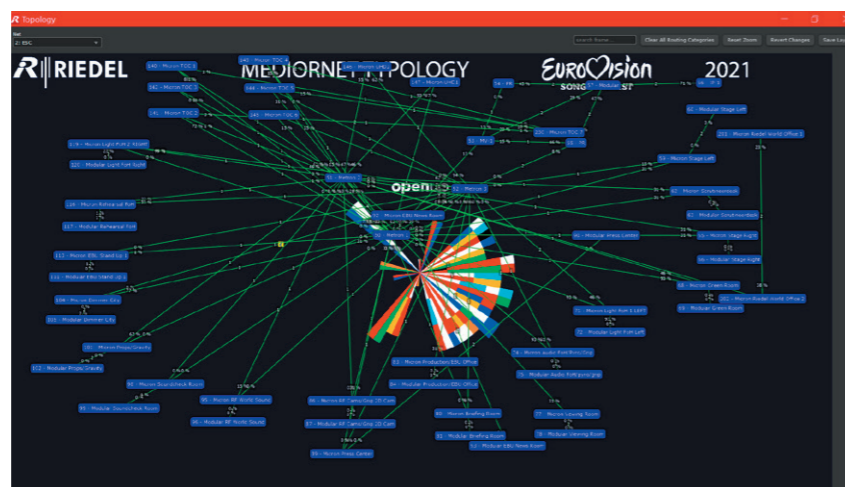


PART OF THE PROJECT



MUON

The MuoN is a versatile SFP available as gateway and processing device ideally utilized in VirtU frames or COTS IP switches (MuoN A series). The software-defined hardware supports a range of different inputs and output configurations, including BNC, fiber, or HDMI (1.4 and 2.0). MuoN SFPs can be configured with a wide range of different apps.



MediorNet - MediorWorks

Other key Riedel elements were the 1200 and 2300 Series SmartPanels, equipped with software apps to provide additional functionality above their primary purpose as intercom panels. With the powerful MediorNet Control App installed, the 2300 Series SmartPanels gave users flexible routing and control over audio and video signals using the high-resolution, multitouch color displays and intuitive touch-screen UI. The production also employed 64 Riedel Bolero wireless intercom backpacks.

To provide and maintain a safe production environment, Riedel followed strict distancing and prevention measures within the bubble and developed a complex accreditation front end and access control system — based on the results of the 26,000 COVID-19 tests administered to all staff — to preserve that bubble. The RFID-based solution included automatic deactivation of accreditations after 48 hours, with reactivation upon submission of a negative COVID test result.

“The Eurovision Song Contest is a complex production, and it evolves from year to year with ongoing improvement to technical and operational aspects, as well as the fan experience,” said Yung Min Lee, Senior Project Manager at Riedel Communications. “This year’s event presented an array of new challenges, and we’re absolutely thrilled with how successfully the whole production unfolded.”

CONTROL PANEL APP

Also runs on RSP-1216HL SmartPanels!

CONTROL PANEL APP FOR 1200 SERIES SMARTPANELS

With the new Control Panel App for the 1200 Series SmartPanels, third-party control, monitoring, and automation systems can now leverage the power of the RSP-1232HL / RSP-1216HL's highly intuitive user interface. Users can trigger actions in third party systems and get visual feedback on configuration status and changes via the colors, labels, and symbols on touchscreens and LEDs that are inherent in the panel. For this initiative, Riedel has teamed up with several prominent industry control & automation vendors, some of whom have already implemented a version of the API. Partners include ATOS BNCS, Axon Cerebrum, Broadcast Solutions HI, Lawo VSM, Pebble Beach Systems, and Skyline DataMiner.

CONTROL PANEL APP ON THE ROAD

The Control Panel App is already out in the field! A leading European broadcaster has chosen our latest app for its cutting-edge full IP / ST-2110 UHD HDR OB van. Aboard this production truck, the versatile interfaces of the RSP-1232HL and RSP-1216HL SmartPanels give operators control over the Skyline Dataminer orchestration and automation system – and the very same panels can also be used as intercom panels. Just imagine the tremendous efficiencies created by uniting router control and intercom functionalities in an OB environment where space is at a premium! With Dataminer integration, you can also run an automation script or execute any other complex workflow with the press of a button. And did you know that DataMiner creates a software twin for every hardware panel? This gives you access to your panel from just anywhere!

API based on open NMOS standards:
Discover via IS-04, connect via IS-05, transport via IS-07



Trigger actions in 3rd party control, monitoring and automation systems

Get visual feedback on configuration status and changes

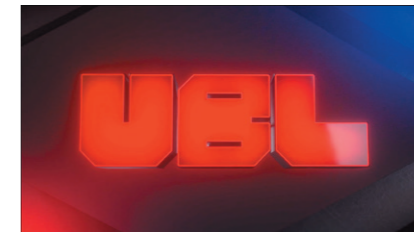


How time flies... Bolero just turned five!

These past few years, our wireless intercom has been around quite a bit:

Bolero has won countless fans and enriched productions and events all over the world – and also picked up a number of prestigious awards! Let's take a look back at some great Bolero moments!





VIRTUAL GLADIATORS

■ Riedel's Bolero, Artist, and DSP-2312 Panels Deliver Reliable Comms Infrastructure for Metaverse-Ready Start-Up UBL

Billed as a new and disruptive martial arts experience, the United Battle League (UBL) is a unique start-up that combines the unpredictable physicality of competitive combat sports with the drama and narratives of video gaming. Offering a sweet spot between eSports and martial arts, UBL livestreams bouts between top-end professional fighters in the UBL Metaverse, challenging each other in immersive environments.

"The market for fighting series and sports leagues is huge," says UBL CMO Steffen Kellner. "It's a multi-billion-dollar market, but all the companies involved have a very similar position. People watch it for the combat and the violence, and we thought there must be room for new entries and innovation. Since our background is in technology, we decided our differentiation should be tech-based."

The UBL world is built around three fictional cities, with combat between three teams representing each story locale. Each competitor wears a high-tech vest created by 2020 Armor. The vests, originally designed to assist training and scoring for martial arts, digitally record various

types of impact. In the UBL Metaverse, these recordings are immediately converted into data for point scoring and triggering any number of graphics and rich media environments. LED video wall technology, combined with graphic tech, is used to put the real human combat into a dynamic fantasy setting. With fighters-as-characters, there is ample opportunity for bringing celebrity names into the fray, from music stars to online influencers. The league will stick with 2020 Armor's taekwondo for starters, but can start to encompass other martial arts disciplines going forward.

As experts in providing production tech for sports of every kind, Riedel was involved in the UBL project from the start. As a technology provider, the company delivered a seamless and reliable comms infrastructure for the production environment, which included the company's Bolero wireless intercom, Artist matrix intercom, and DSP-2312 panels. Image projection specialist and Riedel partner ETC Audiovisual helped implement the media server for virtual sets, while Wige Solutions – also part of the Riedel family – developed the visualisation concept.

Furthermore, Riedel founder and entrepreneur Thomas Riedel, who always has an eye out for the next big innovation, has also teamed up with the UBL as a private investor.

"It's always great to witness how our innovations create groundbreaking sports and entertainment media formats," says Riedel. "Bringing together the best of physical and eSports, the UBL takes the metaverse concept to thrilling levels, and opens up entirely new perspectives on martial arts."

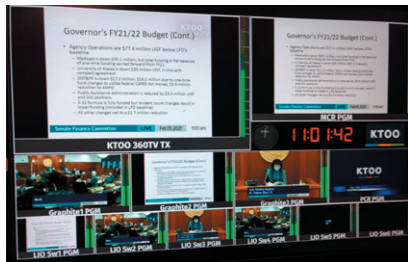
The show was tested in partnership with eSports organizer ESL, who provided three gamers to film livestreamed reaction to the pilot on Twitch, which reached around three million people. In addition, the pilot program was launched on Indian eSports upstart Rooter, where it garnered 500,000 views in the first week and was third place in overall viewing on the platform. UBL is steadily expanding its release into other markets, including the United States and Asia, with plans to roll out multiple seasons featuring quarter-finals, semi-finals, and finals.



USER STORY

KTOO 360TV

Streamlined Signal Distribution connects Alaskans with their State Legislature



By Mikko Wilson, Production Manager at KTOO

Alaska is a very large state and its capital city, Juneau, is isolated by mountains and water. As visiting the Capitol building requires a trip by plane or boat for most Alaskans, they must rely on public television to stay connected with their government. That's where KTOO 360TV comes in. Based in Juneau, we are a public TV channel focused on broadcasting coverage of the proceedings of all three branches of government from the State Capitol.

Our flagship program "Gavel Alaska" — which is distributed online and on our statewide TV channel — features live and recorded coverage of all 3 branches of state government, including committee meetings, Senate and House floor sessions, press conferences, and other legislative events. The program is designed to bring our state government to people across the vast and sometimes difficult-to-reach areas of Alaska, which became even more isolated during COVID.

During the height of the pandemic, connecting the Juneau community and greater Alaska to the happenings at the Capitol was of the utmost importance. Of course, doing so while maintaining a safe working environment was a unique challenge faced by all broadcasters. For KTOO 360TV, we were extremely fortunate to have just received approval for an upgrade right before the pandemic that gave us the

MEDIORNET DISTRIBUTED VIDEO NETWORKS

STRAWBERRY OR VANILLA? TDM OR IP? WITH MEDIORNET YOU DON'T HAVE TO CHOOSE

ability to work remotely for full legislative coverage. Without it, I don't know how we would have been able to fulfill our mandate, as there simply wouldn't have been a safe way to proceed.

The upgrade at KTOO included 39 new robotic cameras, fiber optics, HD video production equipment in the five control rooms used to produce "Gavel Alaska", and a MediorNet signal distribution and processing system at the heart of the installation, which also ties into the existing 6 switchers in the Legislative Affairs Agency's internal Media Services facility. The decentralized routing solution connects six buildings across Juneau and ties into our house router system to handle all video and audio inputs.

Located throughout our facility, the legislature control rooms, and the Capitol building, 13 permanently installed MediorNet MicroN modules are interconnected with high-speed fiber links. Within the Capitol, MediorNet connects all SDI feeds from each meeting room, while also providing return feeds, a full bidirectional link between the two control facilities, and a connection to the nearby Alaska State Museum Lecture Hall. An additional 2 MediorNet MicroN units serve as the backbone of our flyaway live production kit that can operate independently, or connected to fiber at other locations across town to become a seamless part of the larger network.

Together, MediorNet and our house routing systems provide 300 SDI inputs and outputs, with more than 6,500 channels of audio routing. The system connects a total of 65 cameras to 12 video production control stations to serve a dozen live streams and the statewide TV channel. The inputs are grouped together by room through a series of presets. With just two touches to a Riedel RSP-2318 SmartPanel at each control position, our production teams can instantly route the inputs as needed for any production. The system launched in HD 1080i but is fully 3G-SDI-ready.

With our remote cameras, ability to work remotely, and MediorNet system for decentralized routing, our operations are completely hands-off, which has allowed us to provide full legislative coverage throughout the pandemic without a single COVID safety incident. Furthermore, the quality of our coverage has skyrocketed. Previously, it wasn't uncommon to miss events due to the time it took for setup. Now, what used to take 15 minutes or more when moving from room to room only requires two button presses and can literally be done on-air if necessary.

Furthermore, MediorNet's modular approach reduces system complexity while increasing reliability. If one node fails, the system can route around it, prioritizing bandwidth to the most important signals, so our operations continue uninterrupted. We also have access to more content, whether it's multiple views of camera feeds or direct access to computers for sharing PowerPoints and other documents.

As our production complexity has grown, MediorNet's zero delay, flexibility, and multiviewer feature allow us to see what all teams are shooting on the returns feed in real time. Our TV programming manager lives in Portland and she uses the multiviewers and feeds from the system to manage the live broadcasts from home every day, while I have a control station deployed at home just across town with remote access to all the resources in the system. In the end, the new system brings programming and the legislature as close as possible to being there without actually being there.

Looking forward, MediorNet will allow us to easily and cost-effectively scale the system to meet our evolving requirements. All we have to do is add nodes where they're needed. In the future, we plan to extend the system to Juneau's Arts & Culture Center, Maritime Center, and more, which will allow us to provide even more coverage of local events to the people of Alaska.



STRAWBERRY OR VANILLA? TDM OR IP?

WITH MEDIORNET YOU DON'T HAVE TO CHOOSE



USER STORY

GAME CREEK VIDEO

Inventing the Future of Live Sports Broadcasting with Ultra-Dense IP Gateways

At Game Creek Video, our focus has always been on excellence in remote production. From our humble beginnings with two trucks and six employees, we now operate 30 mobile unit systems and another 30 production support units, and we have over 175 full-time employees who provide the engineering and logistical expertise behind many of the world's largest events.

Like many other key players in the broadcast industry, we are actively migrating our facilities to IP-based operations. The current health crisis has accelerated that effort by creating a sudden need to embrace remote production models. But the benefits of IP-based remote production were already well-documented before the pandemic: greater agility and scalability, simplified operations, improved monitoring, and reductions in space, power, and cabling requirements. At Game Creek, we've been ahead of the curve in deploying IP-based solutions because we see the benefits that IP-based infrastructure and workflows can offer not only for our own teams, but for our broadcast partners.

For remote broadcasting, one key aspect of any IP migration is the need for an IP core that can connect with legacy SDI sources and systems. To meet this requirement, we have adopted Riedel's MediorNet FusioN ultra-dense IP gateway solutions - compact SFP-based devices that are software-defined, lightweight, and high-density. By bringing field-updatable signal processing into IP switch ports, the FusioN devices can be used in the near term to enable convergence of SDI sources into the IP network. As the migration to full IP continues, they also can support IP-to-IP processing functions within an all-IP environment.

All Game Creek trucks built since 2012 are equipped with a custom truck-to-truck interface, dubbed "T2T," that supports 32x32 video paths on a single cable. For all of our IP-capable mobile units, we have incorporated Riedel's SFP-based IP gateways as the primary building block in a pair of T2T interfaces. With 16 miniaturized IP gateways installed across two 2-RU rack-mount brackets and four CWDM wavelength SFPs in each of the 16 gateways, each T2T has a pair of 16-channel muxes and a pair of 16-channel demuxes as part of the system.

The interface allows Game Creek crews to interconnect any of our SMPTE ST 2110-based facilities (trucks) with one another or with any of our traditional baseband-based facilities. We typically use the setup to ship all video from the host facility to another facility — most often a "B" unit, where replay operators, a graphics team, and other personnel need to be able to work with video as if they were located in the host "A" unit along with the rest of the crew.

Prior to creating and deploying this ST 2110-based version of T2T, the Game Creek production team needed to convert SDI video on copper to SDI as optical at a CWDM wavelength, and then move it through a mux and across fiber to another truck, where the process is reversed to convert from optical back to electrical to feed a monitor, router, switcher, etc. We found that this model was no longer necessary in an IP-based design, allowing us to reduce the cost per path significantly by eliminating the E/O and O/E conversions.

With its deployment of high-density IP gateways in T2T, though, we have adopted a much more efficient and cost-effective approach — and a complete solution, too. Engineers on our mobile units now can take a signal that is already on the network as an ST 2110 stream, move it via the 25-gig interface on the miniaturized rack-mount UHD SDI-IP gateways, output the video signal as CWDM wavelength SDI right on that box, perform muxing, and send the signal across. With T2T and its high-density IP gateways, we're able to roll any Game Creek truck — baseband SDI-based or ST 2110-based — up next to our trucks; run a single cable; and get video flowing back and forth. In addition to simplifying interconnections and significantly reducing the weight and space associated with cabling, this approach accelerates deployment.

By maintaining compatibility between the very different worlds of SDI and IP, the T2T strategy has helped Game Creek Video realize another major promise of ST 2110 IP: the opportunity to use COTS hardware. With the ability to bridge the SDI and IP realms smoothly, we're able to work with our preferred best-of-breed solutions rather than be locked into a single-vendor ecosystem.

Whether for all-IP workflows or for hybrid SDI/IP workflows, high-density IP gateways deliver essential functionality along with space, weight, and time savings that contribute to more efficient mobile and remote productions for live sports. Production teams enjoy greater flexibility in handling sources and signals, more physical space and creative freedom, and future-proof processing capabilities that will continue to support the latest production techniques and formats.



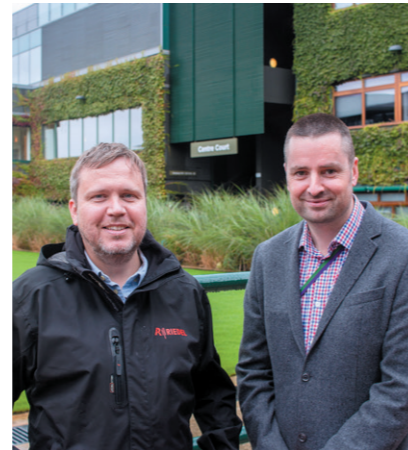
GAME, SET, AND A PERFECT MATCH!



RIEDEL MEDIORNET, ARTIST, AND MANAGED TECHNOLOGY ACE COMMUNICATIONS AND NETWORKING FOR WIMBLEDON 2021

■ The All-England Lawn Tennis and Croquet Club (AELTC) has installed a fixed signal routing and communications network based on Riedel's MediorNet signal transport and processing technology, and Artist intercom. Relying on Riedel solutions for over a decade, the AELTC has steadily expanded its Riedel infrastructure, with the 2021 Wimbledon Championships marking the biggest-ever deployment on the prestigious tournament grounds.

As the oldest tennis tournament in the world, The Championships have been held by the AELTC since 1877 and are one of the four Grand Slam tournaments in professional tennis. For the 2021 tournament, the MediorNet/Artist solution facilitated remote audio mixing to support communications between review officials and umpires, statisticians, safety, security, audio, and production teams as well as video feeds to aid the audio team with press feed distribution and remote operation of all courts. While the basic network remains in place year-round at AELTC, Riedel Managed Technology was brought in to supply the additional panels, nodes, and other gear necessary to support tournament play at 18 different courts over the 14 days of Wimbledon.



Graham Taylor and James Henry „Brew“ Breward



“Wimbledon is steeped in tradition, but we’re certainly not standing still. We’re always looking to stay on the edge of technology and apply the latest innovations to make the Championships the best they can possibly be,” said Brew - James Henry Breward, Audio and Communications Specialist, AELTC. “We know we can count on Riedel equipment to provide seamless, reliable communications with fantastic sound quality when it really matters, such as when resolving debatable review calls. And with all of the additional equipment that comes in quickly for the Championships, we absolutely depend on Riedel’s Managed Technology division to help us meet our tight timeframes. Their expert service and support, together with their ability to access additional gear as needed at a moment’s notice, make them invaluable partners in our fast-paced run-up to Wimbledon.”

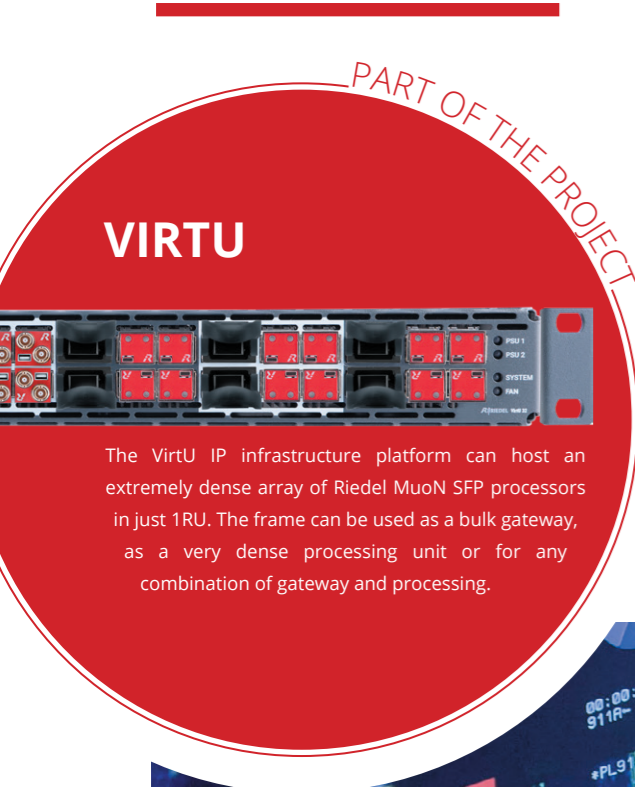
The permanent Riedel installation at AELTC consists of an Artist-64 intercom node and a handful of 2300 SmartPanels to support year-round security and audio teams.

In the run-up to the 2021 Wimbledon tournament, Riedel Managed Technology division expanded the fixed infrastructure with an extensive array of additional Artist and MediorNet equipment, including MediorNet MicroN high-density media distribution network devices, around 120 intercom panels, and Bolero, offering coverage over much of the grounds. With their ability to be deployed in unlimited configurations, the modular MicroNs came in handy particularly in the AELTC master control room, the nerve center for all audio signals, where the signals from the 18 courts, big screen production, and countless local mixes come together.

Additional MicroNs configured with the Riedel MultiViewer App were located in the Centre Court PA rack room. This enabled the production crew in master control to mix audio signals from up to 36 SDI broadcast and MADI feeds from Artist, house audio, OB comms 4-wires, and program feeds. Audio meters on the MicroN multiviewers have been customized to show each umpire’s mic on the left side and the signal sent to the courtside PA on the right, while the UMD shows the umpire microphone switch state.

Brew added, “The SmartPanels are extremely robust and yet easy to use, which our production crews really appreciate. Even people who have never used key panels — not all tennis events are able to offer this level of technology support — are able to integrate them instantly into their workflows. It’s a really smart way of working.”

TINY TECH & BIG INNOVATION FOR NEP AUSTRALIA



The VirtU IP infrastructure platform can host an extremely dense array of Riedel MuoN SFP processors in just 1RU. The frame can be used as a bulk gateway, as a very dense processing unit or for any combination of gateway and processing.

■ A couple of years ago, broadcast systems integrator NEP Australia partnered with Fox Sports to create novel methods of sports production in the country. Australia has a lot of open space between cities – and major sports venues. Creating a new, all-IP infrastructure meant that, rather than flying crews back and forth across the continent, shows could be produced entirely from a central hub – using only a limited number of freelancers at the local venue.



NEP's Andrews Hubs claim to be the most technically advanced broadcast facilities in the world. Its control centres accommodate up to six simultaneous events, connecting with 29 sporting venues through NEP's high-bandwidth network. There are two hubs – one in Sydney, the other in Melbourne – that are fully built on the SMPTE 2110 suite of standards.

"It's a pure-IP environment," explains Marc Segar, director of technology for NEP Australia. "It's a mass-centralised production facility, born out of asking: 'How can we be more efficient with our staff, more cost-effective for our clients, and make our product better?'"

Sports often lead the charge when it comes to higher resolutions and better image quality. People are still content to watch SD at home for a lot of programming, but watching sports in anything other than HD makes fans pretty cranky. Being able to integrate UHD into their environment easily is essential for NEP.

"The move from HD to UHD could have been pretty scary," says Segar. "We are an all-IP facility, based around a 100G infrastructure, so the transition was not huge in terms of networking. But, creating signals for monitor walls and other equipment in the studio could have been a significant challenge."

To help tie the video system together, NEP is using Riedel's MediorNet IP video network hardware. MediorNet MuoN, FusioN and VirtU enable UHD production capabilities, including IP video routing, multiviewing and IP gateway functionalities – all in an extremely small form factor.

"Because we're basically running one enormous network, we can stick these MuoNs anywhere," says Segar. "In any switch, at any time. One SFP in a network switch, or a VirtU, can provide great flexibility. You can take a 25G SFP out, put a 1G SFP in, and there's your network port for control of your camera."

"It's infinitely scalable too. Either add more of the SFPs into either switch, the FusioN or the VirtU, which we now have quite a lot of. You don't get that level of granularity with any other product. Just keep adding them and adding them."



NEP has pushed the use of Riedel's SFPs even further by using them for SDI encapsulation and de-encapsulation, for the company's raft of SDI-based camera gear – and also to create the multiviewers.

"It's super fast to throw down and plug a bunch of cameras in. Because it's IP, it comes up on the network straight away, and off you go. Our relationship with vendors is really important here. This has evolved into a proper partnership. The team at Riedel work with our team at NEP regularly – and it's not just the Australian office, it's a worldwide initiative. You've got two really innovative businesses joined together," concludes Segar.

PROCESS DIGITALIZATION - LET'S DO IT!

Oliver Zimmermann | Director of Manufacturing

■ Oliver Zimmermann joined Riedel as director of manufacturing in 2021. A renowned supply chain expert and change management specialist, he's been focussing on our supply network and production processes to enable even greater efficiency and agility. We wanted to get to know Oliver better and had a quite inspiring conversation with him. Here are a few little insights:

Hello Oliver! Tell us something about you and your background. What is it that brings a doctor of plasma and fusion physics to a company like Riedel?

Hello! As a physicist, I have been dealing with models and processes for several decades, seeking to understand matters and then derive meaningful conclusions. And for the last 12 years, I have been in the manufacturing and telecommunications sectors doing just that: Analyzing systems, deriving measures, and changing structures to become more efficient... And, well, here we are!

I can imagine a background like this might grant somewhat different perspectives on process optimization.

I'd like to think so. I have accompanied various medium-sized companies as a director of operations and technical director, and very quickly realized that a traditional view on process optimization is not enough to drive true, sustainable change, but that you always have to have a broad end-to-end view. You need to look at the entire value chain with all its different stakeholders from the customers to the suppliers, while always keeping the customer's needs front and center. This is easier said than done, but there are a number of progressive management methods and tools that can be introduced to best serve the customer's needs.

Why don't you tell us more about those tools and methods?

I'm a fan of agile and lean management methods, and for a few years now, I have been exploring how AI can support the optimization of process structures. But in the end, one needs to be careful not to focus too much on the methods; the introduction of new digitized tools, AI support etc.... Because in the process, it is often neglected that the human being must always be at the very center as the driver of change.

The tool in the background is really just a tool that we can offer people to help them find their way in this ever-changing world. People, not tools, always have to be in the focus, as people have to operate them, people have to build them, people have to create the structures to make it all work.

"Oliver has always recognized the human being as the source of all improvement, considering every employee and every team an integral part of the overall organization.

This mindset makes him just the right person to guide the Riedel manufacturing division through continuous development as a learning organization — an approach we believe to be vital in a volatile world undergoing an exponential pace of change."

Thomas Riedel
CEO and Founder
Riedel Communications

Where do you see Riedel's strengths?

We are used to being very goal-oriented through the nature of our various projects. Somehow, we have always managed to complete major projects successfully despite constantly changing circumstances and inevitable challenges. This is a testament to the problem-solving competence and high motivation of our employees, who are willing to try anything until they find a solution. That is a huge asset that we can build upon by improving the interweaving of processes and people, as well as by gleaning more targeted lessons from each project we undertake. As an intelligent learning organization, we need to give employees the freedom to question processes, question requirements, and to see errors as something positive. We are already on the right track here, and I believe that this will continue to

set us apart from the competition in the future... Because we'll be the ones that don't just react to the radical changes in the world around us, but those who anticipate them!





CZECH OUT THIS VIDEO INFRASTRUCTURE!

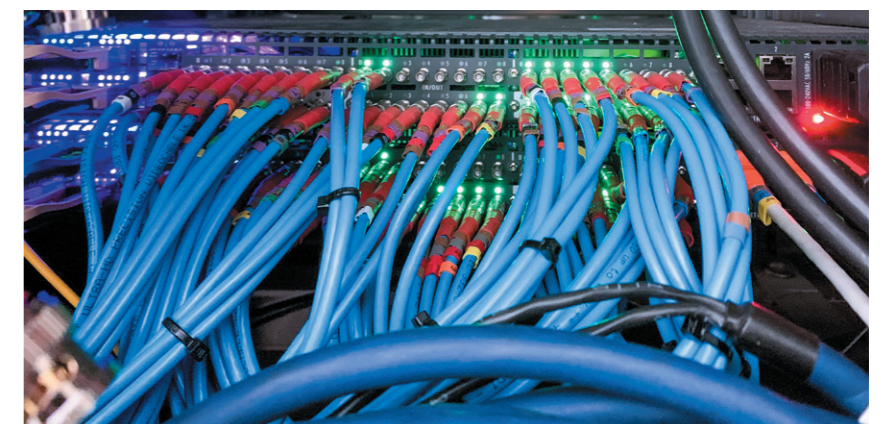
Czech TV Relies on Micron UHD to Save Space and Improve the Production Environment in Rebuilt OB Van

■ Czech TV is a public television broadcaster in the Czech Republic, broadcasting seven channels. Recently, the company rebuilt its HD1 OB van — its largest mobile unit. Central to the rebuild was replacing the van's traditional video router with a more compact, intelligent, and versatile distributed routing system that would reduce space, cabling, and equipment requirements both in the truck and on-site, while significantly improving the production environment. As Czech TV had previously experienced the flexibility of Riedel's MediorNet — having used portable MediorNet systems for special projects — the company turned to Riedel's MediorNet MicroN UHD modules for its HD1 rebuild.

Along with two Riedel MicroN units deployed as stageboxes, four MicroN bases equipped with the Processing App to serve as up/down/crossconverters, and 20 MicroN UHD systems (six of which are equipped with the Multiviewer App), the updated Czech TV truck also features one Artist-1024 node; four SmartPanel RSP-1232HL, rack-mount multifunctional interfaces; 20 compact 1-RU SmartPanel RSP-1216HL interfaces; four SmartPanel DSP-2312 desktop panels, and a Bolero wireless intercom system supporting eight belt packs. The equipment was installed by broadcast systems integrator Smart Informatics.

"Thanks to the versatility of MicroN and excellent collaboration with the Riedel team, we were able to overhaul HD1's signal distribution system and introduce a host of new capabilities to the mobile unit," said Tomas Vesely, managing director at Smart Informatics. "With this new distributed system design and the flexibility of Riedel's SmartPanel interfaces, Czech TV can adapt more quickly to any given production, and their production crew enjoys a much more spacious, clutter-free work area."

The HD1 has already hit the road with its new Riedel gear, supporting production of a major horseracing event and the Czech edition of "Dancing With the Stars."



STRONGER TOGETHER



RIEDEL PARTNERS WITH THE FIA AS THEIR OFFICIAL SUPPLIER OF MOTOR SPORTS TELECOMMUNICATIONS



Riedel has been named the official supplier of motor sports telecommunications for the Fédération Internationale de l'Automobile (FIA)! After a two-decade relationship with the FIA, we will now supply the organization with leading-edge hardware and software technologies to take safety, sustainability, and innovation across all global FIA championship series to the next level.

Peter Bayer, FIA Secretary General for Sport and FIA F1 Executive Director, said, "The FIA's decision to name Riedel as an official supplier of its motor sports communication is a result of a trusted relationship over two decades. It illustrates our shared commitment to use the most advanced technologies, with the safety and sustainability requirements that we have for all our championships."

Our communications and signal distribution solutions for FIA motor sports events include the pioneering MediorNet distributed video infrastructures, which combine signal transport, routing, processing, and conversion in a redundant real-time network; the scalable Artist digital intercom network; the award-winning Bolero wireless intercom system; and a variety of specialized headsets and handheld radios.

"This partnership has been a long time in the making. Over the past 20 years, FIA and Riedel have been constantly inspiring one another to push the envelope of innovation even further," said Thomas Riedel, CEO and Founder of Riedel Group. "We're thrilled to be officially joining the FIA's efforts to promote higher safety standards and the latest technology in the world of motor sports, making the lives of pilots, teams, officials, and the entire racing community both easier and safer."

Lutz Rathmann, CEO of Managed Technology at Riedel, added, "Our intelligent systems are engineered to work seamlessly with one another, so a unified Riedel infrastructure will bring significant added value for both drivers and officials."

SMALL FORM FACTOR BIG IMPACT



INTEGRATED IP GATEWAYS

- Highest-density HD/3G gateway solution with up to 96 video signals per RU
- Ideal for your gradual IP migration path
- No extra frame for gateway processors saving valuable rack space and cabling

VirtU 48-S



MuoN A SFP



STANDALONE IP CONVERTERS

- Miniature UHD, 3G, HD Processing and Gateway frame
- Ideal for remote utilization of MediorNet IP Apps, such as the IP MultViewer and JPEG-XS Apps
- Installation close to signal sources and destinations, e.g. mountable at the back of a screen or next to a camera.

FusioN 6B & 3B



CORE IP NETWORK SOLUTION

- High-density, versatile media processing frame for UHD, 3G and HD
- Save rack space; no leaf switch required
- IP to IP processing, encode/decode and IP gateways

VirtU 32



MuoN B SFP



DISTRIBUTED IP VIDEO NETWORKS

MediorNet IP solutions are deployed in a variety of production environments around the globe. Whether rack-mounted in the engine room or locally installed in the studio or remote production location, MediorNet IP solutions provide the benefit of an incredible Small Form Factor technology. MediorNet IP brings a high degree of flexibility to productions and a high degree of scalability to production infrastructures.

RIEDEL ROADSHOW

2021/22



