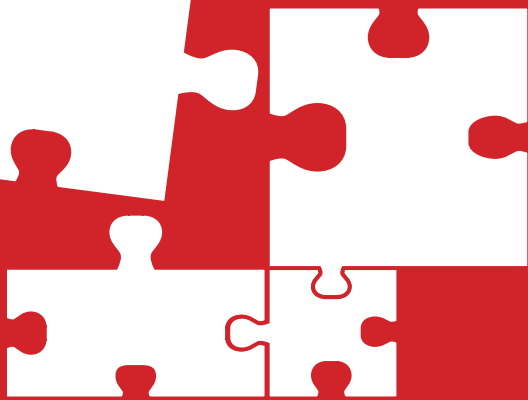


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# THE NEXT OF THE PIECE PUZZLE



## ARTIST-1024

HIGHER PORT DENSITY AND NATIVE IP SUPPORT

**The all-new Artist-1024 node is the next piece of the puzzle for your Artist system. It is a powerful expansion to Riedel's acclaimed intercom ecosystem, delivering the advanced features and capabilities that clients have requested. With higher port densities and full-AES67 (SMPTE 2110-30/31) compliance, Artist-1024 is the next evolutionary step in the continuous development of the Artist intercom ecosystem.**

The Artist-1024 node complements the Artist family and further expands its capabilities with 1024 non-blocking ports in just 2RU, significantly reducing rack space requirements. Plus, we've introduced a range of technical innovations centered around software-definable Universal Interface Cards (UIC). UIC is an entirely new type of interface card that combines networking, mixing, and management. It can be configured to act as an AES67 (SMPTE 2110-30/31) or MADi subscriber card, or as an Artist fiber/router/processor card. Changing the connectivity type is as easy as reconfiguring the UIC with the click of a button in the Director configuration software.

The frame provides 10 bays for UICs, with two reserved for routing and networking UICs. The remaining eight bays can be equipped with UICs of various configurations to provide subscriber connectivity. The integral mixer on each subscriber card can be scaled from 8 to 128 ports per card and can access all 1024 ports of the Artist backbone. In addition, four expansion slots are available for various GPIOs or synchronization applications.

Artist-1024 also introduces a new customer-friendly, flexible licensing scheme with frame-level licensing instead of connectivity-type licensing. Each node starts with a Virtual Artist Matrix (VAM) license which includes a defined number of ports (16 to 1024) that can be freely distributed across the

node's subscriber cards. Besides these node-locked licenses, there are also flexible licenses that allow for a fast reconfiguration of the system by simply moving capacities between cards or nodes.

Riedel's newest Artist node has been architected with redundancy at its core. By supporting multiple redundancy schemes including N+1, NIC, and SMPTE 2022-7, it can provide an unprecedented degree of robustness and reliability. All control logic and data links within the frame are redundant, and additional security is provided by two load-sharing PSUs and a fan module with redundant fan units. The sum of these measures equals the most comprehensive comms safety net available on the market.

The Artist-1024 node will suit new clients looking to have a comprehensive and future-ready system today, as well as those clients who have supported Riedel for years and are now ready to take the step to IP infrastructures.



## SHAPING THE FUTURE OF BROADCAST: TPC'S NEW FULL-IP FACILITY



"With its wide range of connectivity options and extensive IP capabilities, the Artist ecosystem is the perfect communications backbone for our facility. Riedel's intercom network will provide us with a reliable and futureproof foundation for our networked live productions."

*Andreas Lattmann*  
CTO at tpc

■ Opening this autumn in the Leutschenbach district of Zurich, Project Metecho is Switzerland's first full-IP broadcast facility and the new campus for the Swiss public broadcasters SRG and SRF. It is the result of an intense collaboration between Riedel and tpc, an SRG subsidiary and Swiss broadcast technology leader. Project Metecho will include several studios, postproduction facilities, a new MCR, and a centralized playout center — all based on a full-IP infrastructure that unites intercom, audio, and video.

As SRG's production and technology partner, tpc took on the task of designing the technical framework for the new sports, news, and technology center. A cornerstone of the concept is a technical infrastructure that maximizes multifunctionality and flexibility, enabling the facility to evolve continuously and grow with industry developments and production demands. tpc formed a strategic, long-term partnership with Riedel in order to build a cutting-edge communications infrastructure based on the latest technical innovations.

The Riedel installation in Zurich represents the first milestone in a comprehensive modernization of SRG's intercom network across all of its studios in Bern, Geneva, Chur, and Lugano. Engineers and system consultants from tpc and Riedel began to conceptualize the system as early as 2017. They devised a fully AES67-compliant comms infrastructure based on Riedel's Artist decentralized intercom network and designed to integrate seamlessly with the IP workflows in use throughout the facility. The scalable infrastructure will adapt easily to future developments in IP broadcasting, and the installation will be one of the first worldwide to incorporate Riedel's new full-IP Artist-1024 node.

As the largest player in the Swiss market, SRG chose Riedel's intercom solutions for Project Metecho based on both companies' longterm successful partnership — including nearly a decade of experience working with Riedel MediorNet. SRG and Riedel are united in their commitment to push the borders of innovation and have one shared vision: to help shape the IP broadcast world of tomorrow.



A portrait of Jan Eveleens, a middle-aged man with grey hair and a goatee, wearing a grey blazer over a light blue shirt. He is smiling and has his hands in his pockets.

# YEARS MEDIORNET

5 0 0 0 F R A M E S W O R L D W I D E

■ Ten years ago, Riedel Communications launched what would become one of its flagship products: MediorNet. With its unveiling at the 2009 NAB Show, MediorNet was heralded as the world's first distributed, fiber-based media networking platform and signal transport solution. By fundamentally changing how broadcasters move their signals, MediorNet ushered in a new era of real-time signal transport solutions and set the course for Riedel's expansion into the broadcast market.

MediorNet's 10th birthday is just the right occasion for Jan Eveleens, Director of Business Development for Riedel's Video Networking Solutions, to reflect on the success story that is MediorNet.

**2009 was truly a landmark year for Riedel Communications, as it saw the Riedel portfolio expand from pure intercom systems to comprehensive signal backbone solutions. How did this change come about?**

It all began with a moment of visionary foresight by our CEO and founder, Thomas Riedel, who essentially predicted the networked future. In an interview, he forecast that backbone networks would become "the core elements of any installation in the future." Consequently, he launched the development of a system to unite video, audio, intercom, and data signals into one real-time fiber optic network. MediorNet was an immediate success: On release day, the first system was sold to L.A. Live, one of the world's largest entertainment complexes. Even back then, MediorNet was a powerful and innovative system, but in the meantime it has grown to be the market's the most versatile and reliable AV networking backbone solution.

**What has changed over the course of the first ten years?**

The MediorNet success story is a story of continuous evolution. The first couple of years saw multiple additions to the MediorNet family, as MediorNet Modular was joined by the flexible Compact (Pro) and MicroN signal interface nodes, as well as the MetroN core switch. Between 2016 and 2018, our R&D hubs in Vienna and Wuppertal shifted their focus to software development. Continuing the innovative concept of app-based hardware introduced with the Riedel SmartPanels, we launched the MediorNet Control App for the RSP-2318 SmartPanel and developed five apps for MicroN. These apps extend MicroN's functionality by adding decentralized multiviewing, signal processing, and IP capabilities.

JAN  
EVELEENS

Director Business Development



# DID YOU KNOW...?



## What are the main reasons for MediorNet's success?

Today, MediorNet still is the only AV networking system that offers signal distribution, routing, and processing with integrated multiviewing – and more features are yet to come! Another key ingredient for MediorNet's success is its decentralized, modular architecture. Instead of one central router, the network is based on an array of decentralized, intelligent nodes. This distributed system intelligence delivers enormous efficiency gains in all production environments. Due to its great versatility and flexibility, MediorNet excels in event or sports venues, broadcast centers or outside broadcast fleets, and houses of worship or corporate and governmental facilities. As of today, we have installed more than 5,000 MediorNet nodes for prestigious customers around the globe, serving a wide range of applications.

## In practical terms, what key advantages does MediorNet deliver to users?

MediorNet has proven to be stable and reliable in even the most complex installations – like SKY Sports' Germany HQ, where nearly 150 MediorNet nodes provide more than 3,000 video and audio connections. With its distributed, scalable topography, MediorNet is a perfect fit for multicampus facilities that require a high degree of signal flexibility, one of the most recent being the Adelaide Convention Centre (ACC). Here, MediorNet's scalability allows for flexible routing, quick setup, and fast reconfiguration, enabling the ACC to tailor the system to the needs of its customers.

Another perfect example of the powerful efficiencies created by MediorNet are the new OB vans built by AMP Visual TV. Harnessing the full potential of MediorNet's modularity and scalability, AMP Visual's modular MS12 and MS6 OB units can be easily combined into a single powerful production unit, while RF-12 flypacks can further extend the vans' 4K production capacities. With onboard signal processing and multiviewing capabilities, MediorNet gives AMP Visual TV maximum power in minimum space – without compromising ergonomics and aesthetics.

## What are your thoughts on the future of MediorNet?

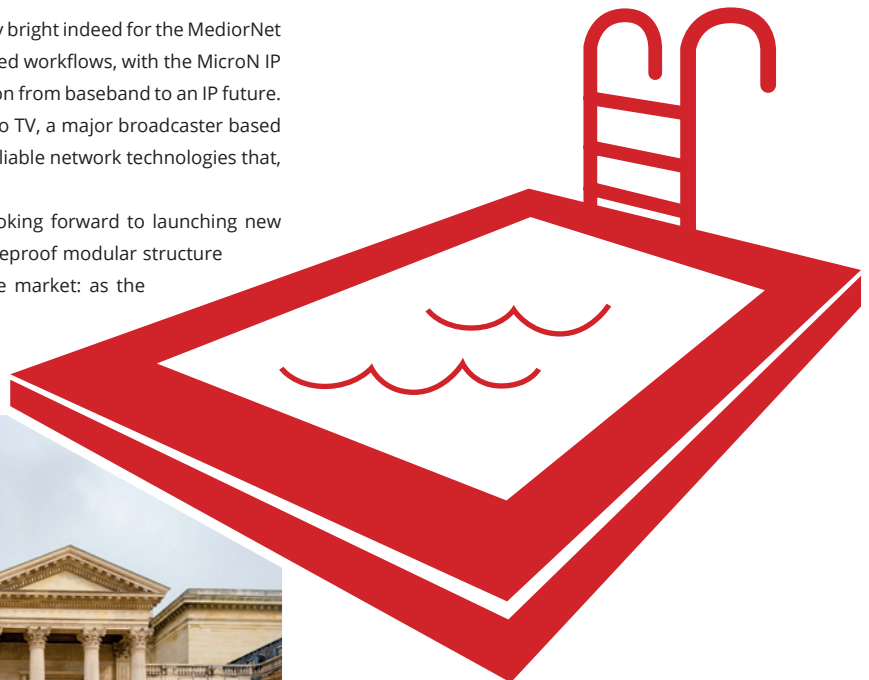
With its strong roadmap for UHD/12G and IP/S2110/NMOS, the outlook is very bright indeed for the MediorNet family. We are fully prepared for the great paradigm shift from SDI- to IP-based workflows, with the MicroN IP App providing the ideal solution for our customers to make a gradual migration from baseband to an IP future. This is one of the reasons MediorNet was the system of choice for NextRadio TV, a major broadcaster based in Paris. MediorNet allows this customer to take advantage of mature and reliable network technologies that, in due time, will support a smooth transition towards IP.

We anticipate further growth for our video networks solutions and are looking forward to launching new hardware and software for MediorNet in the near future. MediorNet's futureproof modular structure and its innovative app concept enable it to adapt easily to changes in the market: as the industry's standards and expectations evolve, MediorNet evolves with them.

All **5000**  
MediorNet  
devices...

... weigh as much as  
**368.125.000**  
bald eagle feathers!

... would fit **42** times into  
an Olympic Swimming Pool!







## COMPACT WITHOUT COMPROMISE: RUPTLY'S NEW OB AND DSNG VEHICLES

■ An award-winning global multimedia agency based in Berlin, Ruptly provides real-time and archival visual news content to worldwide media brands ranging from large broadcast networks to online content providers. Ruptly is known for leveraging the latest in broadcast and newsgathering technologies to push the boundaries of video journalism. One of the latest examples is the company's two all-new, state-of-the-art OB vehicles, which feature a decentralized and redundant signal routing and communications backbone based on Riedel's MediorNet and Artist.

Designed by Qvest Media, a world-leading system architect and integrator for the broadcast and media industries, the new OB van and DSNG vehicle offer state-of-the-art equipment optimized for high-quality 4K and UHD productions — including live coverage of events in news and sports, as well as cinematic-style documentaries.

The decentralized routing approach of Riedel's MediorNet makes it ideal for the rigors of live broadcasting, and it delivers great cost savings for 4K and UHD productions. MediorNet not only reduces single points of failure, but also creates powerful operational efficiencies by allowing users to place physical I/Os close to where they're needed. Then, integrated processing capabilities including embedding/de-embedding and up/downconversion reduce the need for single-purpose peripheral devices. These features result in significant weight savings that enable Qvest Media to exceed its operational expectations without exceeding the weight limit of 3.5 tons.

Ruptly's MediorNet network consists of five interconnected MicroN media distribution devices, with four of them handling signal distribution and processing and one providing virtual multiviewer capabilities. With decentralized routing provided by MediorNet, all audio and video signals are distributed in real time between connected nodes in the OB truck, the DSNG van, and MediorNet

Compact Pro stageboxes that can be placed wherever they are needed.

An Artist 32 digital matrix intercom mainframe enables robust and reliable crew communications for each vehicle. The Artist intercom supports four RSP-2318 SmartPanels and three Bolero wireless beltpacks, with intercom signals distributed by MediorNet. Operators, administrators, and crew now profit from enhanced workflows due to the seamless integration and perfect interplay of all panels and beltpacks.

The two new vans had their baptism by fire during a high-profile international football tournament in Russia. Previously, Ruptly was only able to deploy two DSNG vehicles to do basic stand-up positions, but this time they were able to expand their coverage to three-camera shows, including live matches, using the new OB van. In addition, Ruptly has just had the opportunity to try out the new vans for their first live concert – the Bauhaus 100th Anniversary Concert from the Akademie der Künste Berlin. Although the OB van is designed for three-camera productions, Ruptly was able to expand it to six cameras for this high-profile concert event, producing for both live streaming and for cinematic releases.

"At Ruptly, our primary focus and core business will always be news production. But the Bauhaus concert gave us the chance to test the water for complex, cinematic, multi-camera live events. The MediorNet network performed flawlessly and demonstrated its versatility and flexibility for all types of productions," said Norman Tettenborn, Principal at Qvest Media. "Versatility is truly a keyword here, since it's such a critical factor in the design of OB and DSNG vehicles. With the MediorNet installation on board our two new vehicles, Ruptly is a test case for how to achieve a high level of technical quality and agility with minimal space and within a competitive budget."







**LIGHTHOUSE**  
EVANGELISM

## LIGHTHOUSE EVANGELISM PUTS FAITH IN MEDIORNET, ARTIST, AND BOLERO



■ As one of Singapore's largest and best-known houses of worship, Lighthouse Evangelism, has put its faith in Riedel. The church has deployed a new signal distribution and routing solution for its Lighthouse Woodlands and Lighthouse Tampines facilities that leverages Riedel's Artist and Bolero intercom systems, with MediorNet providing the media distribution backbone.

"We first approached the Riedel team to understand how their Artist and Bolero intercoms could be useful at our sites," said Kevin Yap, Technical Manager at Lighthouse. "During our discussions, it became apparent that an integrated solution using Riedel's intercom systems — along with MediorNet MicroN and Compact — was going to provide the most comprehensive workflow."

The Riedel System Consulting team worked hand in hand with the technical team at Lighthouse to construct a comprehensive and efficient workflow built on Artist, Bolero, and MediorNet. Installed as part of a technical refurbishment of the two Lighthouse worship facilities, the Riedel systems replaced a legacy solution prone to destructive compression, noise, distortion, and other issues that compromised both signal quality and reliability.

Together, the Artist wired intercom platform and

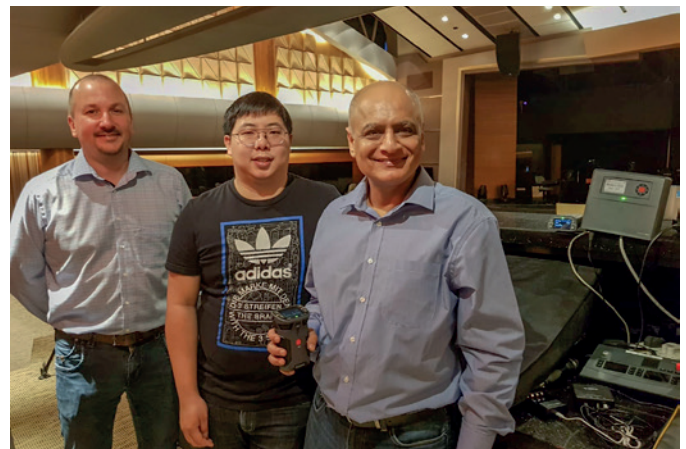
Bolero wireless intercom system give operators crystal clear audio and a tremendous amount of flexibility in communications. The MediorNet system simplifies handling of audio and video distribution within and between the worship venues and their classroom areas, while maintaining the best possible signal quality across the entire signal campus.

Although the Lighthouse Woodlands and Lighthouse Tampines facilities are configured differently, technical teams from Lighthouse and Riedel jointly designed a custom solution that can be controlled using a single control system. Because the same control system manages Riedel gear at both sites, crew can transfer between Lighthouse facilities and easily configure the systems.

The MediorNet routing system, which covers several floors at each worship site, leverages fiber as a cost-effective, high-density signal-transport solution. For ease of identification, all input and output connection points are user-definable in the MediorNet control software. MediorNet's straightforward

system configuration and its flexibility in signal routing also help to minimize time spent on maintenance. Built-in features such as audio embedders and de-embedders, frame synchronizers, and test pattern generators have negated the need for extra external hardware.

Yap commented, "MediorNet has given us an amazing amount of flexibility, and our users have had a great experience working with Bolero. We are thankful for the system consulting and support that Riedel provided, and I am pleased to have made the right decision in engaging Riedel."





BOLERO AND ARTIST INTERCOR IN MAJOR COMMS UPGRADE AT

# NATIONAL THEATER OF

Riedel's Bolero wireless and Artist wired intercom systems are now providing flexible communications with crystal-clear audio quality across the National Theater of Japan's two performance halls. The Tokyo-based theater's technical staff relies on the Riedel system to support the production of traditional theatrical and musical performances.

Tasked with the preservation and promotion of Japan's classical performing arts, the National Theater of Japan stages a wide variety of performances deeply rooted in Japanese folk culture, ranging from traditional dance and dramatic performances to Buddhist chants and puppet theaters. In order to make them more accessible to contemporary audiences, these performances are gently modernized while respectfully maintaining their traditional character.

The National Theater's previous intercom systems had been in place for 10 years so the staff began looking for a more reliable intercom solution with greater RF robustness. After evaluating various

intercom products for ease of installation, sound quality, and stable performance, they chose Artist and Bolero.

Each National Theater facility – a 1,610-seat theater and a smaller 590-seat hall – has its own Artist mainframe with integrated Bolero wireless intercom to ensure reliable communications and connect technical staff with each theater's master control room (MCR). By choosing Bolero for its wireless intercom, the National Theater was able to reduce the number of antennas required, as well as the time and cost required to install them. The cost savings allowed the National Theater to purchase three additional belt packs.

Five Bolero belt packs are dedicated to staff in each hall, and another three belt packs are used by management staff in the MCR. Each belt pack boasts six channels, and staff working in either hall also can take advantage of point-to-point connections to "call" the MCR directly rather than rely on phones, as they had in the past.

"Since we began using the Bolero system, we have eliminated the noise and interference and used the wireless system's flexibility to make continuous improvements to our intercom setup," said Mr. Tatsuya Fujisawa, Sound Engineer at National Theater of Japan. "We've been pleased with new options the Bolero gives us, such as using our belt packs as a two-way radio when that's a preferable to using headsets."

By choosing a flexible and scalable solution based on Riedel's flagship Artist intercom systems, the National Theater of Japan has effectively streamlined and future-proofed its production processes. The team at the National Theater is committed to using the best technology to support its live productions, and Bolero and Artist are playing vital roles during these renowned presentations of traditional Japanese performing arts.





# E JAPAN



## ARTIST AND MEDIORNET MICRON IP ARE NOW **JT-NM TESTED!**

■ Riedel's Artist AES67-108 G2 client card and MediorNet MicroN IP have undergone comprehensive testing at the first-ever "JT-NM Tested" program held at Fox Network Center in Woodlands, Texas, in March. The program, carried out by the EBU and IRT, takes stock of the current IP broadcast state-of-the-art and aims to offer prospective purchasers of IP-based equipment greater, more documented insight into how various vendor equipment aligns with the SMPTE ST2110 and SMPTE ST2059 standards.

Arne Bönninghoff, Head of IP Research, who represented Riedel Communications at both the JT-NM program and the simultaneously held IP Showcase Pre-Staging, is more than satisfied with the results. "We were tasked with setting up random IP configurations in MediorWorks and Director and then had to complete a series of tasks to test the SMPTE ST2110-10/-20/-30 and SMPTE ST2059 compliance of our devices. The performance was then assessed by five independent examiners," Bönninghoff recalls. "Artist and MicroN were subjected to nearly 50 different tests, and both passed with flying colors without any complications. We're happy to now have independent confirmation of the IP capabilities and interoperability of our devices."

Riedel's IP Research team supported the JT-NM program with several MediorNet Compact nodes as analogue and digital audio reference signal sources and had also contributed their expertise to establish the testing framework in the months leading up to the event.

The test results are published in the "JT-NM Tested" catalog, available at the NAB IP Showcase (Stand C12534), that transparently describes the test criteria and testing methodology as well as the hardware and software versions of the products that were tested. For more details on the "JT-NM Tested" program at the 2019 NAB Show and its test results, please see [https://jt-nm.org/jt-nm\\_tested](https://jt-nm.org/jt-nm_tested).

About the JT-NM: The JT-NM (Joint Task Force on Networked Media) has been created to help manage the transition from baseband broadcast infrastructures to IT-based packet networks. Endorsed by AMWA, EBU, SMPTE, and VSF, this effort spans the entire professional media industry and all of its applications.





■ For the fourth consecutive year, Riedel supplied the communications backbone for Passion Conference — an annual Christian gathering of tens of thousands of students and young adults that took place in early January. The Artist digital matrix intercom system and Bolero wireless intercom enabled tight choreography and seamless delivery of coordinated sessions, speakers, and worship music across four venues: State Farm Arena and Infinite Energy Center in Atlanta, The Anthem in Washington, D.C., and The Theater at Grand Prairie near Dallas.

As in previous years, the goal for Passion 2019 was to give attendees across the venues a seamless experience and help them forget they were separated by hundreds of miles. Over the course of the three-day event, pastor Louie Giglio, Passion Conferences' founder, and several bands and worship leaders moved from one location to the next. As they shifted between sites, they needed the ability to interact with one another remotely to ensure they could provide the same experience for every attendee, regardless of the venue. The addition of a fourth venue this year added additional complexity to the communications challenge, requiring technology that could work flawlessly and fade into the background.

## ARTIST AND BOLERO CONNECT FOUR-VENUE PASSION 2019 CONFERENCE



Over the three days of the show, there were more 167,000 individual trunk calls generated from one site to another. "There's no way we could have accomplished this without the VoIP stability, integrated trunking flexibility, and easy deployment of Artist and Bolero," said Jeremy Lommori, lead communications engineer, Passion Conferences.

Working with U.K.-based logistics and event management company Black and White Live, the Riedel team deployed the Artist intercom with Trunk Navigator software to link TNDV mobile production trucks and enable communications across an 800-mile fiber network. The trunked Artist system allowed for point-to-point communications between the venues and from any one panel to another, which in turn facilitated the detailed and complex communication needed to execute a coordinated event at four venues simultaneously.

For the second year, Riedel's Bolero wireless intercom provided clear and reliable communications for production managers, production assistants, and other technical managers working the show. In all, there were more than 150 Bolero beltpacks spread over the four venues.

"Hosting an event that happens in four venues simultaneously requires an unbelievable amount of coordination. That coordination was only made possible by Riedel Communications," said Taylor Charboneau, production manager for Passion Conferences. "The flexibility Riedel gives each user — wired and wireless — is unmatched and what made Passion 2019 work!"

■ A R&D hub in Switzerland is Riedel's response to the increased demand for IP-enabled hardware and software solutions across its product range. The facility now concentrates a significant amount of engineering talent in a single location where there can be total focus on developing the hardware and software innovations that will drive future broadcast workflows.

Tapping engineering talent from Riedel subsidiary Archwave and the Smart Audio development team comprised of former Studer team members, this R&D center is currently operating with ten software developers and two hardware specialists with plans to further ramp up staff and capabilities in the very near future. The R&D hub is co-located with Riedel Switzerland.

Archwave offers a complete line of USB, RAVENNA and AES67 interoperability solutions, NMOS discovery, registration and connection management,

## SWISS PRECISION: RIEDEL'S IP R&D HUB IN ZURICH





and AES70 solutions. All of these are essential components of broadcast IP workflows and their further development will be an important part of Riedel's new R&D center. The Zurich IP Hub combines deep knowledge of contemporary IT infrastructures and many years of experience in high-volume end-node applications with efficient chip-only implementations for highly scalable technologies.

"The establishment of the R&D center is an important step for Riedel," said Arie van den Broek, Managing Director at Archwave. "As the speed of innovation continues to increase, it will be well-staffed engineering centers like this that take the lead in driving these technologies forward."

Working on easy-to-use and fully redundant Audio- and Video-Over IP connection management systems, the R&D team will put significant effort into how cloud technologies can be leveraged for Riedel's broadcast and event applications. "Our focus is on the development of IP-based, real-time smart audio processing and audio signal monitoring solutions. These smart audio systems will help clients to efficiently and effectively control their audio productions in today's IP-based systems," said Peter Glättli, Head of R&D.

The engineering teams are working on individual projects as well as joint projects within the core Riedel R&D team.





## MANAGED SPORTS SERVICES TAKE THE FIELD WITH BOLERO S

■ In cooperation with the German Football League (DFL), Riedel's Managed Sports Services division has developed a customized, reliable solution for German Bundesliga referee communications. Its name: Bolero S. We asked Jacky Voss, Corporate Business Development Manager, to tell us more about the project and its future potential.



### How did this cooperation come about? What was the scope of the project?

The DFL approached us after hearing of our Bolero wireless intercom solution. To take their referee communications to the next level, the DFL was not just looking for a new product, but a highly specialized and reliable partner. With our full-service approach and our experience with customized solutions, we could provide the carefree package they needed.

The goal was to design a comms infrastructure that ensures reliable communications between Bundesliga referees, their assistants on the sidelines, and the Video Assist Center in Cologne. Our experts delivered all this and more! We built a truly bulletproof solution around the Artist communications infrastructure and an individualized, voice-activated, Bolero-based wireless device, with remote support delivered by our Remote Operations Center (ROC) at the Riedel headquarters in Wuppertal.

### Can you tell us more about the development process? What were the main challenges to overcome?

This was an intense collaboration between DFL experts and Riedel engineers that began as early as 2017. Bolero was cut out for the job, with features like its Advanced DECT Receiver and high-clarity voice

codec. But in order to make Bolero perfectly suitable for this demanding task on the pitch, our engineers had to design a smaller, hands-free version that could offer unlimited freedom of movement. It wasn't easy to shrink such a compact device even further without compromising quality and functionality. But we accomplished this by removing the display and implementing a voice-operated switch (VOX), as well as integrating a more compact yet powerful lithium-ion battery. Calibrating the VOX also proved a delicate task, but our great partners at DFL made it possible to conduct countless field tests in different Bundesliga stadia, which led to a well-rounded, very reliable device.

### So what does a Bolero S stadium setup look like?

Each referee, linesman, and fourth official is equipped with a Bolero S pack and a custom-fitted Riedel RUN headset. In all of the 18 Bundesliga stadia, the Bolero S hardware consists of three antennas – two in the stadium interior and one in the flash zone. The antennas use an AES67 network to connect to a local Riedel Artist frame equipped with AES67 client cards. The Artist node is then interfaced to our ROC in Wuppertal, where two experienced engineers monitor audio quality, RF performance, and battery life, while also constantly adjusting talk and listen levels and the VOX threshold in real time. This is why Bolero S is offered exclusively as part of





© DFL



## MEDIORNET AND ARTIST FORM DECENTRALIZED NERVOUS SYSTEM FOR OB TECH

Riedel's Managed Sports Services. Subscribers get a full-service solution that includes locally installed communications hardware plus remote management of the entire system by comms experts.

### What other potential applications do you see for Bolero S?

Bolero S is a truly unique solution – a custom-engineered, managed services offering borne of the DFL's specific need, but perfectly suitable for countless other sports applications. The solution is currently being adapted for coach communications, and teams, leagues, and associations from many realms of the sports world have shown strong interest in this managed service. Just recently, we partnered with the Swiss Super League. Also, we are thrilled to announce that Bolero S will ensure reliable referee communications for the most popular sports league in the United States.



© DFL

■ Danish production company OB Tech has two powerful allies on board their all-new OB van: Riedel's MediorNet real-time signal transport, processing, and routing technology and the Artist digital matrix intercom. Working in concert, the solutions form the signal distribution and communications nerve center for the van. OB Tech designed and constructed the van from the ground up, with additional expertise provided by the long-time Riedel partner and broadcast specialist JAKX.

OB Tech's new van made its production debut on March 1st for the first live show of the current season of the Danish X Factor. While the unit is currently on a temporary chassis, it will eventually take the form of a double expanding trailer once the buildout is complete. With support for 16 cameras, the new van offers more than double the capacity of OB Tech's second biggest OB vehicle.

The Riedel systems on board include a MetroN core router, MicroN high-density media distribution devices running standard application, multiviewer application and the Processing application for a virtual format conversion, extended color correction and its all natively a part of the network with the MediorNet Compact Pro stageboxes. Artist Intercom is interfaced over MADI enabling it to have a flexible and recallable infrastructure for panels and 4 wires. All MediorNet components work seamlessly with their Sony video switchers and Lawo audio console.

"Twelve years ago, we ventured into the OB world with a small van and an Artist S 32 node," Jeppe Hansen, CEO/Partner, OB Tech, recalls. "We have been relying on the Artist ecosystem ever since, and we are delighted that with our fifth OB truck, we can now deploy an extensive Riedel solution based on MediorNet and Artist. These decentralized systems give us a degree of flexibility that would be unattainable with traditional centralized solutions."

He adds that there are huge benefits to basing the entire signal ecosystem on integrated and scalable solutions from a single vendor. Through an Ember+ link, the MediorNet software interacts seamlessly with the van's broadcast control system for unified control and an agile, easy-to-manage system. Plus, the built-in audio routing capabilities in MediorNet removes the need for a separate audio router – saving on costs and space aboard the van.

Hansen notes, "MediorNet will save us money in the long run because it allows for expansion when needed, and it also replaces separate equipment for embedding, de-embedding, frame store, video delay, etc. Thanks to MediorNet, we were able to build a truck that gives us access to a new market segment that we haven't been able to compete in before."







## NEXTRADIO TV ROUTES WITH RIEDEL

French media powerhouse NextradioTV has chosen Riedel's MediorNet to provide a large-scale, decentralized routing backbone for the broadcaster's brand-new audiovisual infrastructure. The 204-node MediorNet system has been installed in new NextradioTV facilities on the Paris campus of the Altice Group, which acquired NextradioTV in 2016, to support signal distribution, routing, and processing over a single real-time network.

NextRadioTV's move to the Altice campus gave the broadcaster a tremendous opportunity to build technical facilities from scratch and to establish a common infrastructure for all its TV and radio channels. The scalable, state-of-the-art technology integrated into these new facilities gives NextRadioTV added agility in producing and broadcasting events from across its remarkable portfolio of 24/7 news, documentaries, and live sport competition.

Antoine Robelin, Technical Director at NextradioTV, said, "In addition to supporting flexible day-to-day operations, our Riedel gear gives us the ability to take advantage of mature and reliable network technologies while proving that Riedel is the right partner to grow with us towards a smooth IP transition."

The Riedel installation at NextradioTV includes 18 MetroN core fiber routers, as well as 182 MicroN frames distributed across three buildings, and provides integrated processing capabilities that dramatically simplify operations. The MediorNet routing solution takes advantage of a new cabling infrastructure, including a wealth of installed fibers, to address the long distances between production studios/control rooms/technical rooms and the need to be able to expand capabilities quickly and easily.

MediorNet's decentralized concept was also very valuable in managing a smooth and incremental move from the former building to the new one. Thanks to pre-existing dark fibers, both buildings were easily combined onto the same real-time network, which tremendously facilitated the migration process. The flexibility of the Riedel equipment even enabled NextradioTV to design and implement new galleries while the installation was under way.



With MediorNet at the heart of this brand-new broadcast technology showcase in Paris, NextradioTV is equipped to embrace innovations such as decentralized routing while taking a thoughtful and gradual approach towards IP-based workflows. The Altice campus installation demonstrates how an investment in Riedel equipment can yield valuable results immediately and as a broadcast organization evolves.







## TECHSOUND AND RIEDEL ROCK CHINESE ESPORTS MARKET

■ Riedel Communications is proud to announce a partnership with TechSound, an international team audio company specializing in esports. TechSound designs and operates advanced player communications systems for China esports clients based on Riedel's Artist digital matrix intercom system, Performer partyline system, and MAX headsets. Enabling a cost-saving voice-over-IP (VoIP) remote production workflow for esports events across China, the Riedel gear ensures clear communications not only between players, but also between the remote production staff and on-site referees.

Founded in 2017, TechSound is a rapidly growing consultancy and systems engineering company servicing the expanding Chinese esports and live event markets. Inspired by the specific demands and requirements of esports, the Shanghai-based company takes a fresh, IP-centered approach to intercom and remote production. TechSound has relied on Riedel solutions from the beginning to provide bespoke communications solutions for music, corporate, exhibition, and traditional sporting events alike.



"TechSound is one of the few companies in China using VoIP systems for remote production of esports competition. As such, it's the perfect partner for us to expand our presence in the dynamic Asian esports arena. TechSound and its clients can testify to the value of our Artist-based system for delivering the seamless communications critical to running a smooth international event," comments Gao Jian, General Manager at Riedel China. "The evolving technical requirements of esports have become a key driver of China's comms industry, and we're pleased to be supporting TechSound in addressing these requirements and achieving an agile and efficient production workflow for esports competition across multiple geographic sites."

The Riedel Artist system integrates easily with audio routers and consoles in any type of remote broadcast production workflow, and its modular architecture provides a wide range of connectivity options. Participants and the production team can reliably use comms systems from various manufacturers without the need for human interfacing. For a recent international esports event held in northern China, the Riedel solution enabled TechSound team members to seamlessly integrate intercom, wireless, and walkie-talkie systems, all from different rental vendors and manufacturers, into one communications system. TechSound also manages semi-permanently installed season systems, connecting stage referees and players across six cities across China back to a centralized production studio.

"With the Riedel solution, our producers can sit in Shanghai and call shows in other cities," says Patrick McGowan, Director at TechSound. "Direct communication with on-stage referees at different venues allows for a remote workflow that saves on hotel and flight costs. Because the solution integrates so well with other production tools, we can easily and cost-effectively add further studios or sites to the production."





## ADELAIDE CONVENTION CENTRE UPGRADES WITH MEDIORNET AND ARTIST

Situated at the heart of Adelaide's iconic Riverbank precinct, the Adelaide Convention Centre (ACC) opened as Australia's first purpose-built convention centre in 1987. A recently completed AU\$397 million redevelopment included the addition of two new buildings and saw the venue emerge as one of the world's most modern, flexible, and technologically-advanced convention centres. At the heart of the upgraded facility is an expansive signal transport and communications backbone powered by Riedel's MediorNet real-time media network and Artist digital matrix intercom system.

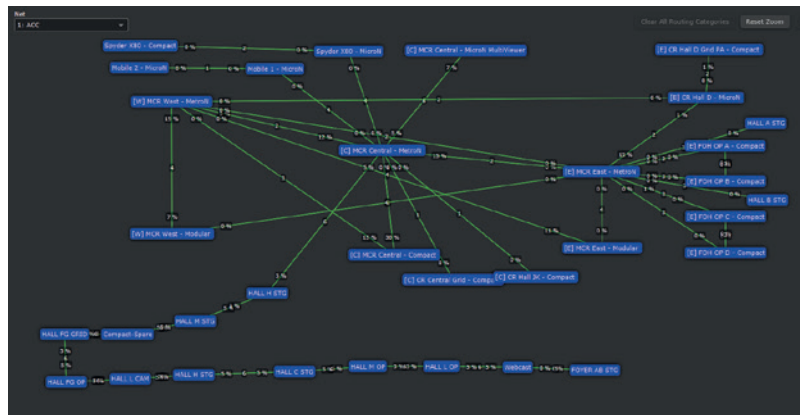
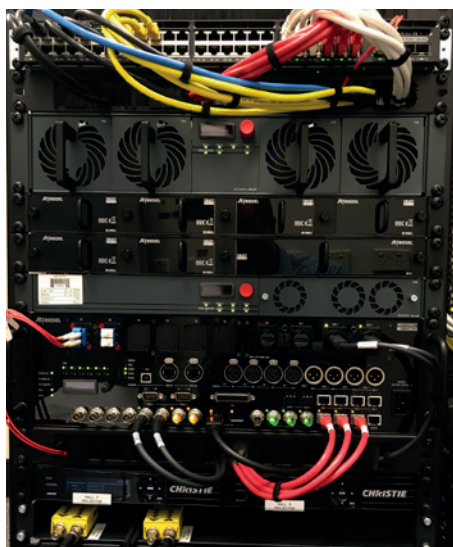
MediorNet provides integrated, decentralized, and fully redundant signal distribution and processing throughout the Centre's three buildings, with an available capacity of 1,092 Gbps and the ability to route more than 1,000 simultaneous HD-SDI signals. The decentralized MediorNet backbone affords the ACC the ability to route any type of signal from any point in the venue to any other point or points in the convention centre without requiring staff to reconfigure any cables.

"The time savings and reduced labor mean that we can offer more flexible services to our clients and accommodate last-minute requests, such as increases in signal counts. This kind of flexibility simply wasn't possible with our previous infrastructure," said Matthew Stanton, Technology

and Venue Operations Manager, Adelaide Convention Centre.

Deployed in a decentralized configuration, the ACC's MediorNet backbone ensures fully redundant distribution of all signals including video, analog and digital audio, intercom, ArtNet lighting control, AV control system signals, and data for speaker support. Each ACC building is outfitted with a MediorNet Modular mainframe paired with a MetroN core fiber router. MetroN provides robust video router functionality with switching delays of <40ms as well as high-speed re-routing.

The ACC also has 23 MediorNet Compact and Compact Pro stageboxes for portable signal distribution at locations such as stage floors, grids, and front-of-house positions. There are also five MediorNet MicroN high-density media distribution network devices for additional signal distribution requirements. One of the MicroN devices is configured as a dedicated multiviewer using the MediorNet MultiViewer App.







For robust crew and staff communications, an Artist 128 digital matrix intercom mainframe supports the wired intercom panels with Bolero taking care of the wireless beltacks. All intercom signals are distributed throughout the three buildings over the MediorNet backbone. Riedel's Performer Digital Partylines are carried over the MediorNet Compact Pros via native AES3 paths, which are all connected to the Artist matrix via MADI.

The ACC is a dazzling showcase for everything that sets MediorNet apart from its competition — decentralized signal routing, redundancy of core components, and the flexibility to set up point-to-point or point-to-multipoint configurations on the fly and with minimal effort. With the modularity and scalability to grow the system as the Centre's requirements expand, MediorNet is a valuable competitive differentiator as the ACC continues to compete for global convention and event clients.



# PROJECT PICTURES

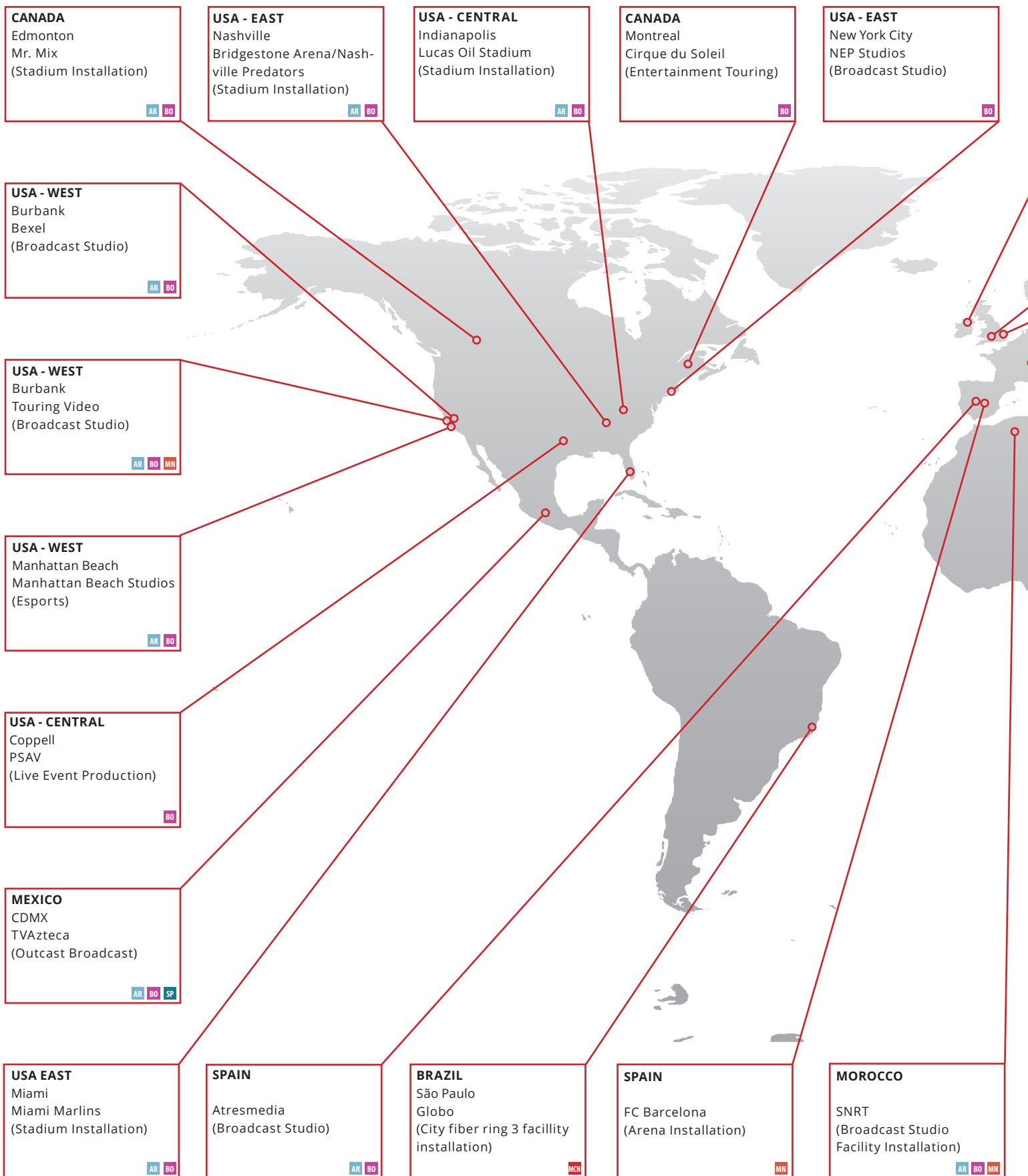
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# Recent Installations (selected)



**MEDIORNET** AR MN  
**MICRON** MCN  
**ARTIST** AR  
**SMARTPANEL** SP  
**BOLERO** BO  
**TANGO TNG** TNG  
**ROCKNET** RN  
**PERFORMER** PF

