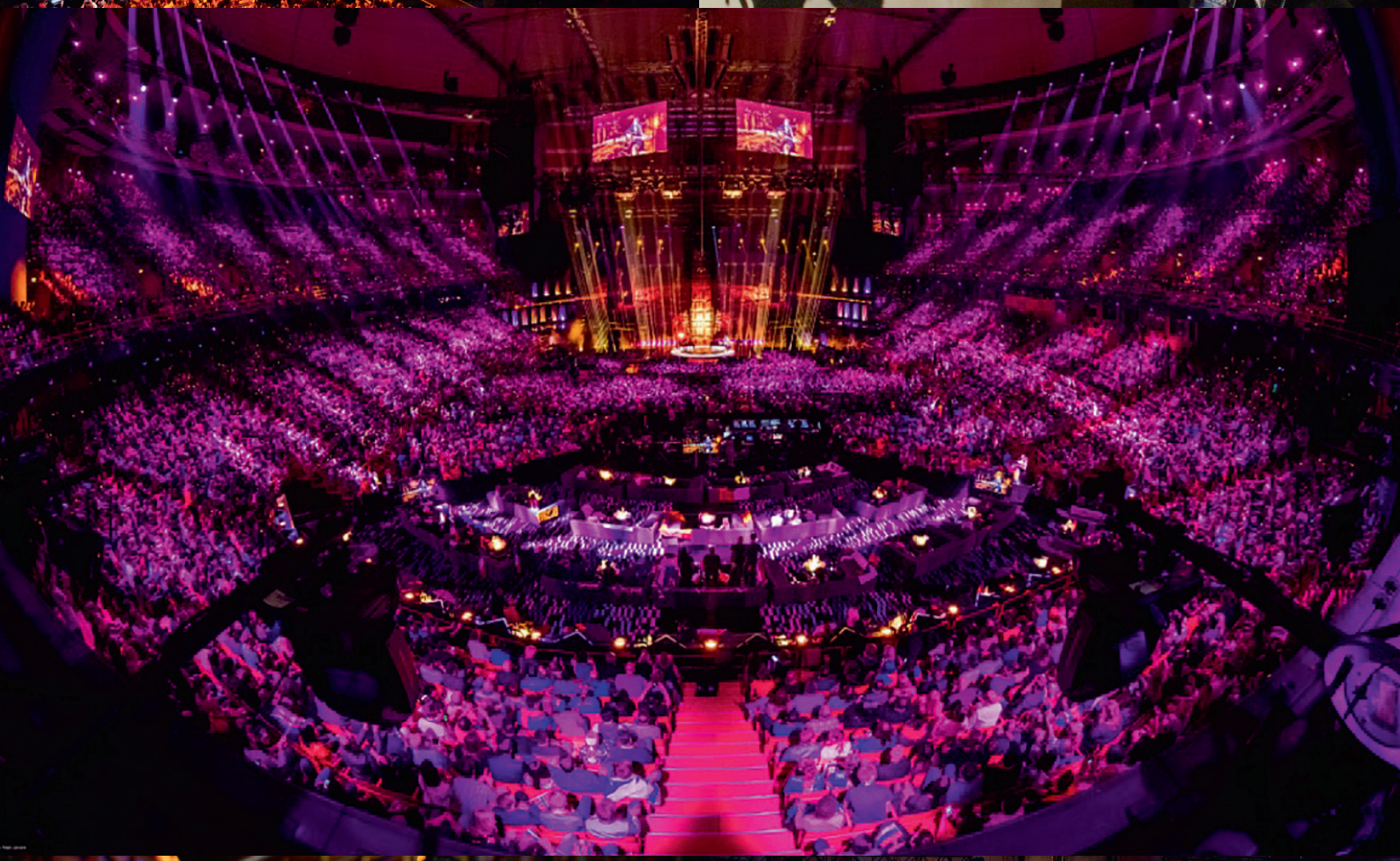


Opposite: Technical Director of the Eurovision Song Contest 2016, Ola Melzig (pictured with the faithful Eurovision cow); Head of Audio, Oskar Johanssen.

EUROVISION SONG CONTEST 2016

The standard-setting, boundary-pushing entertainment behemoth that is the Eurovision Song Contest returned once again to its spiritual home in Sweden. TPi's Ste Durham was in the eye of the storm for what was possibly the biggest production of the year so far.

Whether you are talking about viewing figures, the number of performers or the staggering amount of pre-production, it really is hard to put into words the scale of the Eurovision Song Contest… but I'll try. The entire time I was in Stockholm, travelling to and from the imposing Ericsson Globe arena, I couldn't escape the Eurovision juggernaut. I was lucky enough to be in town for one of the semi-finals, a number of rehearsals and the grand final itself. In the majority of conversations with crew and creatives, I couldn't shake the thought of that famous quote from Muhammad Ali: "The fight is won or lost far away from witnesses - behind the lines, in the gym, and out there on the road, long before I dance under those lights."

To have the smallest chance of success when taking on an event of this scale, the amount of preparation is quite frankly obscene - I'd imagine even enough to impress 'The Greatest' himself. After initial decisions are made behind the scenes, the team moves into months of pre-production, followed by weeks of loading in. Then come the preliminary rehearsals, using local performing arts students as stand-ins for each of the 42 countries involved. Once the delegations arrive in Stockholm, the real preparations can begin, eventually giving way to public rehearsals, the semi-finals, and grand final dress rehearsals, all leading up to the colossal final show, watched by 204 million people around the globe.

As you'd expect, the sheer amount of kit and crew is similarly excessive. While it is no surprise that the grand final runs to a tight schedule, being aired around the world, it was amazing to see just how strictly the entire rehearsal period was timed. The entire system (including the crew) was backed up to ensure that any malfunction, complication or sudden bout of illness had no effect on the smooth running of the show.

THE BOSS

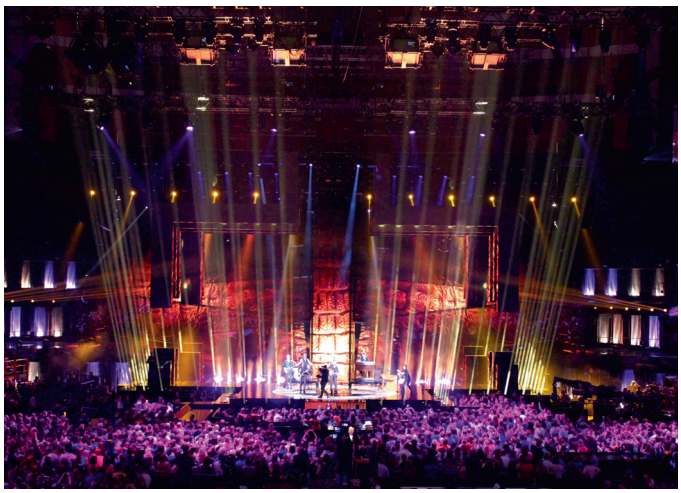
Technical Director, Ola Melzig, has been at the helm of more Eurovisions than anyone else in the competition's 60-year history. Despite being another who worships at the altar of rock, Melzig is clearly honoured to put his talents to use on this gargantuan production. He said: "I love that it is one of the few shows that give you so much time – we've been in rehearsals for almost three weeks. Everything is scripted from camera shots to pyro cues. There are 22 cameras in the room averaging 70 shots per song and you will never see one camera filming another. It's like an intricate ballet, and the production is truly world class."

As well as being something of a high-pressure assignment, in collaboration with host broadcaster SVT, Eurovision is the ideal platform for trying new techniques. "I always believe to do the unexpected or something new; you have to use technology that hasn't been seen before," he said. "We did it with Catalyst as well as CyberHoist. We have a tangible track record of experimenting with products before they became industry standard."

One such experiment was equipping six Barco HDQ40 projectors with High End Systems MMS mirrors so they could function in several ways. Melzig explained: "In 2013 we had four HDQ40's as backlights doing aerials and Mikki Kunttu said 'wouldn't it be cool to put mirrors on them?' We basically figured out how to make the world's most expensive moving light! This year we are mostly using them like stand up scanners and the effect is stunning."

With 42 countries in total to deal with, the final creative call is up to Melzig and his team. This can mean saying no to certain ideas and finding creative ways to accommodate and realise others. "Delegations can come with wishes and requests but they can never be demands. It's a very organic process that goes on right up until broadcast. My job is to have technical and creative dialogues with the delegations.

"Things like the Holo-Gauze used for Australia and Belarus came from San Marino, who originally wanted to have a hologram of a symphonic orchestra on stage," Melzig explained. "Musion screen was not feasible for us, since we still needed something to front project on. From our first camera test everyone was blown away. It was meant to be used on four



Above: A look at the depth of the stage, with the LED arches suspended over 'pools' of Ayrton MagicDots, leading back to the layered video wall; The Netherlands' country-tinged performance; The Eurovision crew gathered during rehearsals.

songs but that dropped to two. In a way it's a good thing. Just because you have a cool new technology you don't want to shove it down people's throats."

One of the foundations of Melzig's successful management is the understanding he has with his crew, gained from his extensive technical experience, and the subsequent respect that flows in the opposite direction.

"I've done my time: stage hand, scaffolding builder, forklift driver, runner, catering assistant, followspot operator, LD, I even did sound once – though that wasn't a good experience! The crew knows I can relate to their problems in a way that few people can, and it's the biggest strength in what I do," he said.

"I simply try to make sure everybody is in the same boat and rowing in the right direction. You also have to look after people. There are times when departments have to be patient and this can lead to frustration. I just have to say: 'Did you think this was going to be plug and play? You should be proud you are a part of this - we are delivering world firsts. If you can't do it now, do it tomorrow.'"

The majority of the 200-strong crew had already experienced Eurovision in one way or another, with many of the Swedish contingent having taken part in the Melodifestivalen tour – a preliminary contest to choose the nation's Eurovision entry. This led to a tight knit community within the Globe, despite the weight of numbers.

Melzig added: "We always find ways to do things better, which is the beauty of our team doing it so many times. Sweden is by far the most experienced country in the world when it comes to the Eurovision. We've done our own, as well as some abroad. The format we use today was something we established in 2002, or at least the core values, and since then we have focussed on polishing and adjusting it to be smarter, more efficient, cheaper, and better."

FORM FOLLOWING FUNCTION

Along with Viktor Brattström, Frida Arvidsson was tasked with creating another iconic Eurovision stage, a position that required close collaboration with many of the other creatives and technical crew. Starting in June 2015, the pair wanted to design an angular, layered and masculine set that would allow the huge Litecom rig to take centre stage.

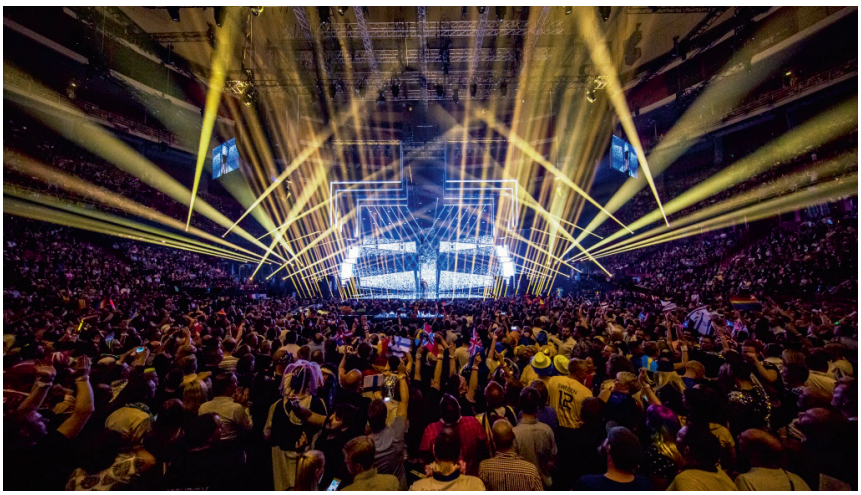
Arvidsson explained: "We put a lot of our effort into finding the right products for the LED floor and lights. The sizing and measurements were created after we found the products. We didn't want anything decorative, just the technical stuff. It was designed around the old cliché that 'form follows function'. It was really easy and a great situation for us because we just basically sat there and wanted stuff and they picked it out!"

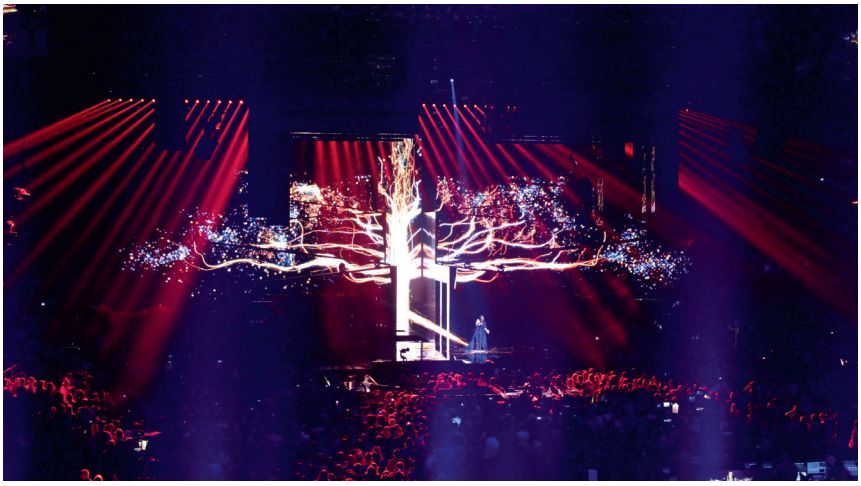
The giant upstage video wall was made up of five tiered, triangular ramps either side of a deep entry walkway, completely covered in 10mm LED and magnified by a custom acrylic diffuser layer. There was more LED to serve as the very back of this three-dimensional set, and each of the tiers were lined with Clay Paky Mythos. The stage floor was also covered with video panels that could house bespoke content as well as the graphics that dictated marks for staging elements and performers during each of the impressively choreographed 30-second changeovers.

There were two 'pools' in the stage, which housed rows of Ayrton MagicDots. A walkway snaked from stage right of the A-stage out to an LED-clad B-stage that a number of the performers used to interact with fans in the pit.

Arvidsson continued: "The practical elements informed design in terms of things like loading props from the side of the stage. It was a perfect excuse for us to build the depth that we envisaged! We wanted the set to be physical as well as digital. The sense of depth was accentuated by lighting placement as well. We knew that we needed a set that could be transformed as much as possible. It needed to be distinct and anonymous at the same time."

Given the fact that the team had "almost every problem on the table" from the word go, Arvidsson quickly had to adapt. The roof weight in particular was a challenge because of automated LED arches that were suspended above each side of the stage, to be lowered and raised where





A crowd level shot from public rehearsals; Ukraine's Jamala and her winning performance, complete with a subtle lighting design and imposing video content.

necessary and accommodate content.

Melzig said: "It was quite obvious that we needed a lot of automation. I approached CyberHoist, who had their generation two ready to release – it had been used on a couple of small things but they were looking for a big show to introduce it. That was music to my ears. Eurovision 2003 was the first show that ever used CyberHoist so it was a nice way to close the circle.
"The new system is amazing in terms of the advanced cues you can programme simply and quickly. It's extremely helpful for us as we had one control system to move the LED arches in and out, the truss ladders, props and the back follow spot truss."

FIVE STAR

With the contest at the mercy of a government budget, one of Melzig's primary concerns when enlisting suppliers was getting the maximum bang for his country's buck, given the fact that there were no sponsorships in place. This also means being discerning about the manufacturers and brands that will best suit his team's designs, while keeping one eye on the bottom line.
Danish Lighting supplier Litecom had become increasingly busy from its Swedish branch, originally finding its way onto Melzig's radar due to its membership in the PRG Alliance.

Although it was something of a step-up to take on Eurovision alone (around 50% of the gear had to be sub-hired from AED, NicLen, Rent-All and Ampco Flashlight), Melzig was thoroughly impressed with the service Litecom provided. He said: "Litecom has been five star. Ask any lighting company to supply the amount of fixtures, truss, rigging, cable and PDUs that Litecom have and they would would struggle. Sourcing is challenge number one, then to build a system that works 16 hours a day."

The main lighting rig consisted of (deep breath) 88 Robe BFML Blades, six Robe BFML Spots, 308 Clay Paky Sharpys, 166 Clay Paky Sharpy Wash 330's, 120 Clay Paky Mythos, 58 Clay Paky Scenius Spots, 67 LightSky AquaBeams, 173 Martin by Harman MAC Auras, 105 Martin by Harman Atomic 3000 Strobes with scrollers, 90 Ayrton MagicDot-Rs, 40 Philips Vari-Lite VL3500 Washes, 200 SGM P-5's, eight Robert Juliat Lancelots, five BBS Lighting Pipelines, and six ARRI 300W Fresnels. The company also provided 11 MA Lighting grandMA2 Light (five active, five spares and one remote), and three MA Lighting grandMA2 full-size for video control.

In terms of delegation-specific extras, the UK specified 108 High End Systems UNOs and five Clay Paky Stormys, while Belgium requested 30 ADJ Dotz Matrixes and Sweden asked for 21 Chromlech Elidy-Big panels.

Litecom also provided 143km of cable, 1,397 metres of truss, 15km of high voltage Powerlock cable, 4.64MW of generator power, and 25,300 control channels for lighting.

Melzig explained: “We have a fixture count close to 1,856, around 50% are Clay Paky. We established a really good relationship in 2013 and the colours are great for TV – the new Scenius is probably the best light for TV ever made. The white is so white and the ZRI levels are perfect for large-scale events like this. Having a lot of the same brand definitely speeds up programming, not to mention the similarities in colour, response, and the gobos.”

As well as supplying the gear, the company also devised a complex network to provide a reassuringly secure operating environment. Litecom’s Technical Manager, Balder Thorrud, explained: “We had two symmetrical dimmer cities on either side of the arena because we couldn’t cross cables. The network is based on two separate fibre rings, using Luminex GigaCore16 switchers – one to use as an MA net and one for comms, internet and so on.

“The whole system is built over six MA sessions – one video, one key light, and four effect light main sessions – all for one operator. We have main and back up desks at FOH, so a full switch can die and all the operator has to do is turn his chair 90°. Of course everyone has different ways of putting a network together but, in my eyes, if you do the right way then you are fully protected. You can take a cable out of this system and you can’t see it at all to look at the stage.”

Lighting Designer Fredrik Jönsson was invited to Litecom’s rehearsal facility in Denmark and left to spend the day alone with with around 40 lamps in order to formulate an ideal specification. Girts Putelis, Key Account Manager at Litecom, explained: “There was no pressure from us, we let them decide what they needed. He subbed in a number of fixtures to improve his initial specification, including Robe BMFLs, LightSky AquaBeams, and Martin by Harman MAC Auras. We’d already built a relationships with a number of partners so we were ready to go.”

Once the rig was finalised it was a case, much like with Arvidsson, of trying to create something distinctive that was also versatile enough to be used in dozens of different ways. Jönsson commented: “Each act has to hand in a document called ‘Look and Feel’. It explains what kind of production they like, what kind of atmosphere they want to create and even if there are some colours they don’t want to use. Most of the acts also give you mood boards. That could be a piece of paper with a photo on it or it could be 36 pages of detailed information on the lighting, video playback and camera angles that they want. We try to take in all that information and see what we can do with it – and of course make them as happy as we can. “We also have to bear in mind the need for variation. Not all countries can have blue lights or confetti or something like that. We have trends every year. It’s quite difficult to keep the acts different and stretch the look each time. When you have 42 songs to take care of and you have three opening acts and three interval acts, you need a ‘candy bag’ of fixtures big enough to give you plenty of different options.”

Jönsson allowed the no-nonsense set design to inform his own, sticking to a rock’n’roll-style rig that would run at high intensity. He said: “It has a huge perspective, fixed lines and fixed angles - all very symmetrical. It feels enormous, so whatever lighting I put up had to be just as confident or ‘masculine’. For inspiration I turned to the huge rock’n’roll tours of the ‘90s when you had rock bands touring with enormous lighting rigs built in a symmetrical way all the time.

“The lights in the rig will be in very straight lines and in groups of four, six or eight, and even one with 56, all in a long straight row. We also have a large number of lights inside the stage.”

Using an MA control network enabled Jönsson’s four Programmer / Operators - Calle Brattberg, Danne Persson, Fredrik Stormby and Timo Kauristo - to work simultaneously but independently in their own sessions on different aspects of the show. This was the only way to deal with the level of programming detail and fine-tuning needed to perfect the cues for





Above: The huge audience for the grand final; The pyro-related madness that was Azerbaijan's performance; Video Content Designer, Mikki Kunttu; FOH Engineer Mattias Winther; Pyro Designer Markku Aalto.

each of the 42 numbers, given the scheduling and time pressure through the rehearsal and build up period ahead of the semi-finals and final.

The four lighting operators used Cubase projects running on laptops to generate timecode that was routed into their respective grandMA2 light consoles allowing them to work on the different songs as needed, speeding everything up considerably. During the visualisation part of the process, Kauristo had established a master cue list for each of the different songs which were already timecoded. This cue list was then loaded into all the grandMA2 so all operators were working on the same cue list, but in separate sessions.

This simplified the process of understanding the lighting scripts produced by Jönsson for the songs. The cue sheets for the 42 songs were then divided up amongst the operators who started programming all songs during a pre-visualisation period lasting four weeks before they were in situ in the Globe with all the production installed.

The songs could be updated and tweaked as required, then switched back into the master show timecode session and the revised work viewed using MA3D. Complex and intense programming was needed to get each of the 42 songs looking dynamic and individual.

Jönsson worked closely with Assistant Lighting Designer Emma Landare and joining them, the lighting operators and Video Content Designer Mikki Kunttu at FOH were Video Programmers Neil Trenell, Fraser Walker and Pekka Martti and Follow Spot Caller Q-Lan Wallertz.

Another interesting contribution from Litecom was the use of its very own equipment-monitoring app. The program, which is downloadable onto a crewmember's smartphone, allows those on site to see statistics on each and every fixture in the network. As well as providing real-time notification of which fixtures require maintenance, the results can be collated and presented to the manufacturers and suppliers to create a respective performance report.

Thorrud explained: "During 2014's Eurovision in Copenhagen we made a simple Google document to stay on top of the performance levels of the fixtures. We have a really clever guy at the workshop who I asked to do something with the spread sheet to make it easier to report and show statistics. He came to me a week and a half later and he'd created an app! It's been so useful for this project because we have so many lamps. We can track them by serial number and then print everything out for the companies so they can see exactly what we've done with the lamps and how they performed."

Jönsson concluded: "The Eurovision Song Contest is like the Holy Grail of television. It attracts an enormous number of viewers from all over the world, and it's a huge challenge: to do it and to do it right. That means quite a bit of pressure. At the same time it is also the most fun thing you can do because you will never work in a production team as competent or as strong as you do with [Eurovision]. And if you are as lucky as I am to do it more than once it's a privilege."

A CUT ABOVE

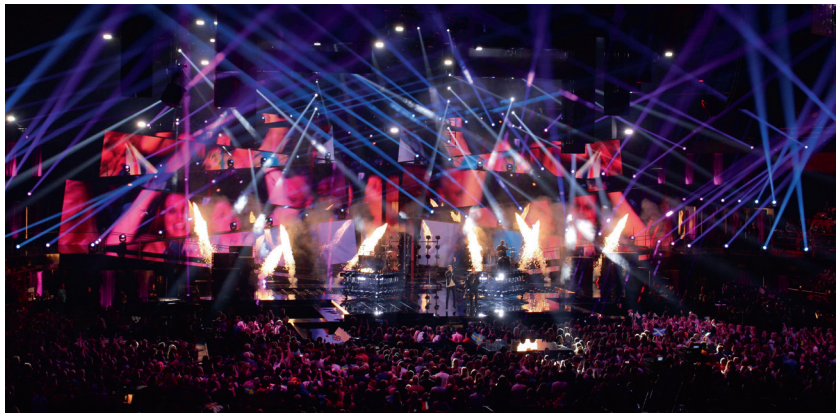
Kunttu was another one of the core team that worked on Eurovision in Malmö in 2013. He said: "You get the stage design and see what that provokes. One of the paths I have is to follow the set; another is the brief from delegations. My role is to merge these two as well as I can, though some briefs are more specific than others. During production rehearsals we find a common ground through a lot of correspondence and communication. The challenge for me is to keep the process creative and out of the spread sheets and budgets."

Sweden's Mediatec provided 900 square metres of high resolution LED-screen and LED-floor, 12 HDQ40 projectors, 10 High End Systems MMS moving mirrors.

Visual production expert FIX8Group was part of the team operating the video content for all of the competing acts as well as pop megastar Justin Timberlake's performance at the final. Managing Director Neil Trenell led the FIX8Group team, working with Eurovision's Kunttu and Jönsson to create a cohesive, broadcast-ready visual picture. "This was an incredibly large-scale project," explained Trenell. "We had around nine terabytes of content, and 7,500 files. Each output required seven different media maps to get a single image on the screens."

The carefully crafted video content was displayed across the stage's



Above: The PixMob crew: Jean-Sebastien Rousseau, Christophe Lessard Drolet, Sophie Blondeau, Ysabel Vangrudenberg, Nico Dupont and Rafael Linares; PixMob's Creative Technology Officer, Vincent Leclerc; Dan Shipton , Creative Director for the UK's entry.

900 metres of LED screen, which included the super high resolution floor of 71 million pixels. The FIX8Group team also worked closely with the show's camera operators to ensure that the visuals looked perfect in every scripted shot.

"We were constantly looking at the footage, even before it went to the viewing rooms for feedback," continued Trenell. "This allowed us to make sure there were no camera shots with dark holes in the background."
The creative process saw several versions of video content for each delegation, with Cyprus having as many as 10. Trenell and his team also had to accommodate a constant stream of revisions, up until the day of the grand final.

"The Hippotizer-V4 worked really well - the engine is very stable," said Trenell. "The Zookeeper feature proved incredibly useful and Green Hippo also added coloured boxes to it at our request. This allowed us to keep track of the adjustments and manage our media a lot more effectively."
Melzig added: "The FIX8Group team are incredibly good at what they do and know how to get the maximum effect out of the Hippotizer. If you give Neil the simplest video clip he will turn it into million-dollar content, just with his MA2. He does a lot of effects on the fly and brought the whole thing to life."

It is easy to suffer from a certain amount of 'LED fatigue' given the current trend in pop production, but both the rig and the content at Eurovision were a cut above. The 10mm panels on the stage took the content particularly well, creating consistently impressive looks throughout the week. This is no accident however, simply the result of an experienced team working tirelessly to achieve the highest level possible.

Kunttu laughed: "I call Eurovision a black hole, because it eats you up and spits you out after two months and you've no idea what happened! That said, because everybody is focussed on one thing for so long, you have a good chance of reaching a higher level than would be possible on a normal production. The biggest challenge is the vast amount of information that you receive every day until the last week of rehearsals. I'm really happy that I managed to do it all without printing a single piece of paper! Instead, all communications came through a website I built. After the production is done, I can also go back in time and review the process."

Beacon provided 19 Green Hippo V4 Hippotizer media servers, and all video content management was led by Peppe Tannemyr.

COME TOGETHER

Some of Eurovision's most impressive effects came courtesy of interactive LED magicians, PixMob. Using a combination of its PixMob PRO and PixMob VIDEO technology, the company turned the audience into a lighting canvas. The standing section of the crowd were supplied with PRO wristbands, while the advanced VIDEO pendants were distributed among the seated fans. The entire arena was blasted with invisible infra-red light, allowing the PixMob crew to control the colour of every individual in the audience to create specialised effects, such as strobe, shimmers, pulses, fade ins and outs, and so on.

PixMob's Creative Technology Officer, Vincent Leclerc, said: "We've already used the video technology on major projects like the Sochi 2014 Winter Olympics and the Super Bowl half time show, but Eurovision is a perfect fit for us. We realised that, for events like this, you want bold, impactful moments. We don't just want to use the audience as a canvas, we want them to feel something special as well. The ultimate goal is to unite people and the Eurovision slogan of '*Come Together*' couldn't be more apt."

European Sales Director at PixMob, Ysabel Vangrudenberg, added: "We received the main video content in advance and created effects for each individual country, though SVT has the final say on who will get to use them. We tried to keep the content closely related to the stage video concepts, bringing them out into the audience."

One country that used PixMob's technology to great effect was Australia, whose pulsing video content appeared to ripple out into the audience during the song's chorus, contrasted by a more subtle shimmering effect during the verse sections. The lighting scaled back slightly during these sections, allowing the PixMob technology to demonstrate its full potential.

Leclerc commented: "For us to be impactful we have to be in control of the ambient lighting as well, otherwise we can get washed out. This means we have a lot of discussion with the lighting guys. We are also working in

Above: The Ericsson Globe in all its glory, with the delegations gathered in the central 'green room' during the performances.

such a low resolution because each pixel is attached to a person. With only 11,000 audience members, and each pendant roughly 80cm apart, we can only achieve a tenth of the resolution you get on a phone. This, however, would be difficult to improve as people are not likely to suddenly shrink in the next few years!"

The team, stationed way up in the rafters at the Globe for the perfect view, was completed by Sophie Blondeau, Jean-Sebastien Rousseau, Christophe Lessard Drolet, Nico Dupont, Pascal Trips and Rafael Linares.

FILLING THE GLOBE

The Stockholm-based audio team were hired directly by SVT and have collectively worked on countless gigs in the spherical venue. Head of Audio Oskar Johansson specified an L-Acoustics system, primarily because of the directivity control courtesy of the mechanically adjustable K-Louver technology. Johansson said: "We needed the flexibility in dispersion for such a big room, and I think we've got it to a point where it sounds really good. It's also lightweight, which has been helpful considering the issues we've faced."

Sweden's Live Media Group provided the system (with some elements of the PA sub-hired from Rent-All), which consisted of 16 L-Acoustics K2 per side, nine KUDOs as back fill, and four delay clusters of nine K2's, along with six Martin Audio MLX flown per side and two underneath the stage. Johansson explained the reason for the mixture of gear: "We changed subwoofers to Martin Audio MLX for weight purposes and nearly saved a tonne per side. We originally specified 16 L-Acoustics SB28's but the six MLX give us similar power."

The control system consisted of DiGiCo SD5's at FOH, SD7's at monitors and SD9´s, for pre-listening to the microphones, all on dual optic loops (main and back up). These were supplied by multiple Optocore DD2FR-FX and DD4MR-FX MADI devices, which were used to interface with the broadcast consoles, sending signals between broadcast and live transmission.

After decades with Sennheiser as the competition's official microphones, the team changed to a Shure Axient system with DPA d:facto capsules. Johansson commented: "They're wonderful. We are also using Shure PSM1000 in-ear monitoring, we think it sounds so much better than it did before. SVT can't get anything for free, but when you are renting everything it means you can choose exactly what you like. We're not using that many channels; 48 channels of wireless microphone and 18 of in-ears – this includes steadycam operators, hosts and so on."

There is no live band at Eurovision, with the rules stipulating that only six singers can be on stage per country. The backing tracks ran from laptops with Cubase software, as Johansson clarified: "We have two stations, main and backup, each consisting of two Apple Macs running in parallel with a direct out autoMADI switcher, in case it breaks down."

Johansson had nothing but good things to say about his team and the various companies who came together to ensure that the competition's audio lived up to the high-standards being set by the visual departments. "I'm really happy with Live Media Group, and the desk support from Dave Bigg from DiGiCo has been very reassuring. He's been here for two weeks, just in case, and it's been great to have Jan Heering from Shure here to keep on top of the frequencies."

FOH Engineer Mattias Winther was another crewmember blooded at Malmö in 2013, though he has has quickly acclimatised to life at the centre of the Eurovision whirlwind. "I think its fun actually, having such a variety of things to work with certainly keeps you concentrated. With the amount of pre-production we have it becomes normal - if you feel happy that you're on top of things then it's fine," he said. Having been stationed at FOH for 10 of the preliminary Melodifestivalen shows, Winther has had a lot of practise mixing for this style of production.

"In a way it's harder than mixing a live band, as you have something that has already been mixed somewhere else. To maintain consistency between the tracks has definitely been a challenge, but it's something we've had time to work on during pre-production and the rehearsals we did with the local students. We basically ignored the vocals and concentrated on mixing the tracks, shifting our attention to the mics once artists arrived," commented Winther.

He went on to explain that the shape of the venue can lead to difficulties with slap back and headroom restrictions during touring performances, but the amount of time the team had in the venue, along with the resources available, have allowed them to combat these more effectively.

FINNISH FIRE

Although pyrotechnics are a relatively new addition to Eurovision, Pyro Designer Markku Aalto has been on board since their introduction in Athens, where he operated for costumed Finnish rockers, Lordi. He said: "Not everyone is using pyro, around 13 or 14 acts using a combination of flames, waterfalls, mines, and CO2 jets. We have 16 permanent CO2 jets and

Above:Litecom's Technical Manager, Balder Thorrud, and Key Accounts Manager, Girts Putelis.

26 permanent pyro positions all around the stage to shoot whatever we want. We have two boxes into which we can load the effects for the next act. Most of the effects we use are manufactured by Le Maitre, though our waterfalls are Ultratec, and some of the flames and comets are made by Next FX."

While the original idea for each design comes from delegations, it is Aalto's job to mix them together, provide consultation and ensure that the audience is not watching the same display time after time. Almost all of the effects are shot by timecode, using the Fire Ctrl Touchscreen Digital firing system, leaving the crew to manually activate the heavy fog.

Aalto added: "The Fire Ctrl system is good because we can control flames on same time level as pyro, with no need to play with DMX. It's safer and easier to programme. I like the system, and have been using it for many, many years." The crew was subjected to inspections from security and fire marshals during the rehearsals to ensure that safety distances have been calculated in accordance with the law. "There's not much on the stage at the same time and we don't use propane or gas. These alcohol-based pyro effects aren't that strong, they are more of an illusion."

Having been at the venue for five weeks prior to the show, Aalto and his crew were not immune to the rigorous rehearsal schedule. He chuckled: "My God we rehearse! Israel has rehearsed pyro 10 times for example - that means 30 waterfalls 10 times! Azerbaijan are using just as many, as well as 50 mines for the fast chase sequence - that's 500 mines and 300 waterfall units! The fact that we have everything permanently hidden under the stage definitely makes life easier because we don't have to run anything in and out. It all makes for clean stage and a smooth performance."

CREATIVE INPUT

With such an impressive technical production in place, the delegations could not have asked for a better foundation on which to build their respective countries' expectations. Black Skull Creative's Dan Shipton was brought on board as Creative Director for the UK entry, *You're Not Alone* by Joe and Jake, with hopes of employing a more credible approach to the nation's offering than had been seen in previous years.

"I formulated the original idea for the music video I directed for them," he explained. "We were inspired by using a wall of Ayrton MagicDots, provided by Neg Earth. We also wanted to integrate the two drum risers, which had been a signature look from the beginning."

Shipton decided to use High End System Unos instead of the MagicDots for the Eurovision performance, as they were "cheaper, lighter and did more or less the same job" allowing him to max out the design in other areas and still comply to Eurovision rules on the amount of set pieces and weight on stage. He continued: "We used static white light in the middle eight of the song to create a contrast before the explosion of colour and pyro accents on the last chorus. We also used live shots of the audience in the video wall, something I believe has never been done in the competition before."

In pulling double duty as Creative Director for both Italy and Australia, Nicoline Refsing experienced two very different versions of the creative process. She explained: "The Italian delegation gave me the keys and this led to me listening to the song about 300 times to come up with the idea! I wanted to use the tree of life as a base, adding the flowers and other props made for us by Blackfriars Scenery in London, to represent all the parts that make up your life. [The artist] Francesca [Michielin] is very poetic, playful and quirky and I wanted to bring that out."

Conversely, Australian Head of Delegation Paul Clarke had some very specific ideas about what he wanted out of his entry. Refsing helped him to realise them, visualise them, and explain how they would work on stage. The idea of isolation in the city and the world of social media was represented using the Holo-Gauze as a central feature, making the artist Dami Im seem as if she was suspended in the air.

Refsing continued: "With the addition of Holo-Gauze to the already different screen depths, as well as the lighting and PixMob technology, there was certainly a lot going on. SVT has been fantastic to work with and they made sure we delivered it. They took everything we wanted on board and gave as much as they could."

Melzig commented: "The use of the Holo-Gauze is my biggest delight, as it's the first time it's done in Eurovision. The Belarusian delegation came up to me and said that they'd been waiting until the competition returned to Sweden before they dared to do this. It can be difficult to integrate with the lighting levels, but it's a case of making the director, LD, and video realise that they need to sit back at certain parts of a song. When you find those compromises and the stars align, its wonderful."

RAISING THE BAR

As you may have noticed, I was very impressed with my first taste of the Eurovision Song Contest. While I genuinely was astounded at the stratospheric level of production and professionalism, I was just as surprised by how good-natured and familiar the mood was in every corner of this massive venue. This surely filters down from Melzig himself, a man inexplicably calm and jovial even after months with the weight of this titanic production on his shoulders. The good news is, he was pleased with the results: "In my opinion this has been the best Eurovision ever. It's been so intense, so well put together and so well produced. It takes us months and months but if it makes good TV then it's all worth it. This place boils when we get all the fans in, and the atmosphere is electric. At the end of the day, none of us are in it for the music, we are in it for the production, and my God do we spoil them!"

TPi

Photos: Ralph Larman and TPi
www.eurovision.tv
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