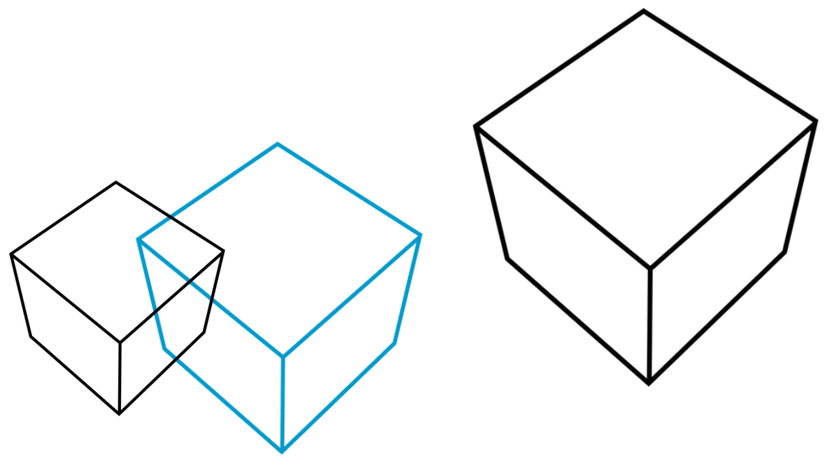
MOTION MAG

POWERED BY WICREATIONS

ISSUE 01

Credit: Jens Koch

CONTENT



There simply is so much to say about motion... that's the reason we have created this magazine.

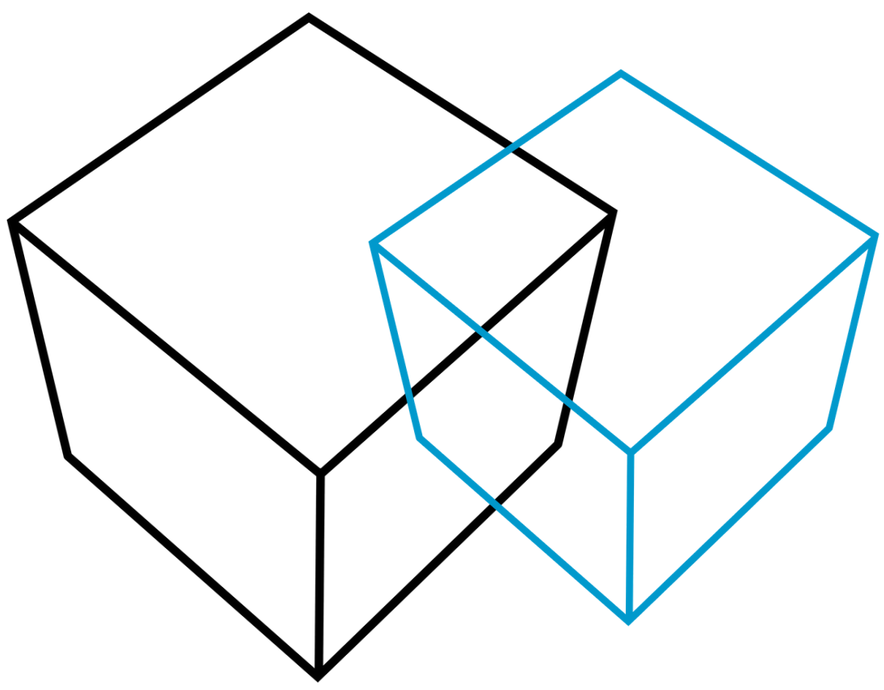
This edition will be dedicated to the launch of WImotion, our new deontology and solution to connect a selection of WImotion devices together in the most safe and flexible way.

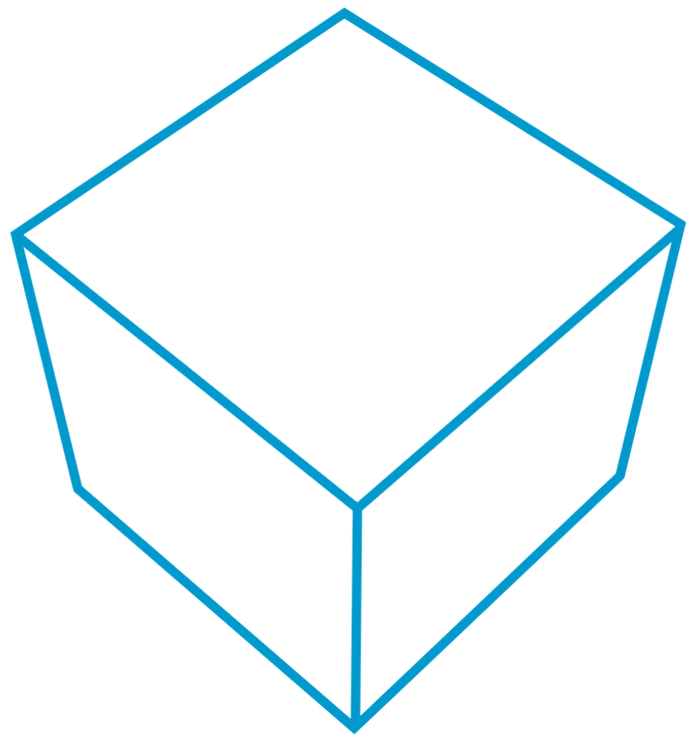
Automation is ever more present in shows, events and entertainment installations... you name it! It's like cars really... when Benz invented the car, only a select group of people could afford one and could start driving, until a point where lots of cars were driving around. Soon after that, drivers licences became inevitable, the manufacturing process was refined enough to produce regulated and tested products and traffic rules were put in place... and driving a car became democratised.

Reflect this evolution to our (unconventional) entertainment industry and you will understand our mission: WImotion intends to regulate and generalise motion through a new standard of solutions. To form the people that will be the regulated drivers, operators, technicians and programmers, we have started the WIcademy, our very own educational WImotion center.

You will also read tips and tricks in this first issue and cases to demonstrate good practise.

— The Editors —





WImotion, a new deontology for motion sets presented by Hans Willems, CEO and Founder of WIcreations

"Over the past 14 years, we have worked with many existing tools, systems and brands on a wide variety of different projects... and this aggregate experience has helped us understand and drill down into all aspects of motion in scenic design and automation. It's also led us to spot a gap in the market...

”

With the fast growing and ambitious nature of the entertainment sector comes a growing consciousness of responsibility in relation to automation and motion on a show.

We felt that show designers, producers, and everyone involved in the creative and technical elements of scenic / staging was missing a 'complete solution' that responds to these challenges.

A few years ago we decided to start working on a fully comprehensive proprietary solution based on Industry standards ... a range of products to facilitate building all types of motion configurations – from the most straightforward flying requirements to the most complex stage designs.

Now is the time to introduce that to you: WImotion is our own highly versatile and fully documented automation system, meeting the most stringent of safety regulations.

WImotion has been designed to offer the current and next generation of creatives and technicians, the safest and most user-friendly options for moving scenery, objects and people in entertainment shows, fixed installations, industrial applications and more.

This magazine has a dedicated article on the new WImotion family range of products, systems and devices, the WI-Desk, the proprietary MCA software and all other Motion Configuration tools.

It will demystify some of the rules and guidelines on using automation – like the need for combined use of the E-Stop and Dead Man's Handle (DMH) / Hold to run and the minefield of information and details involved in SIL3 compliance.

The new WImotion range is tour-ready and already been used highly effectively on Rammstein's recent European tour... read all about it on page 26.

I think we have created a truly world class, highly practical and above all a very safe range of solutions, thanks to serious in-depth research and the expertise and knowledge of some of the best practitioners in the industry.

Their input and advice have been invaluable, coupled with our own extensive experience in this specialist field of technical production.

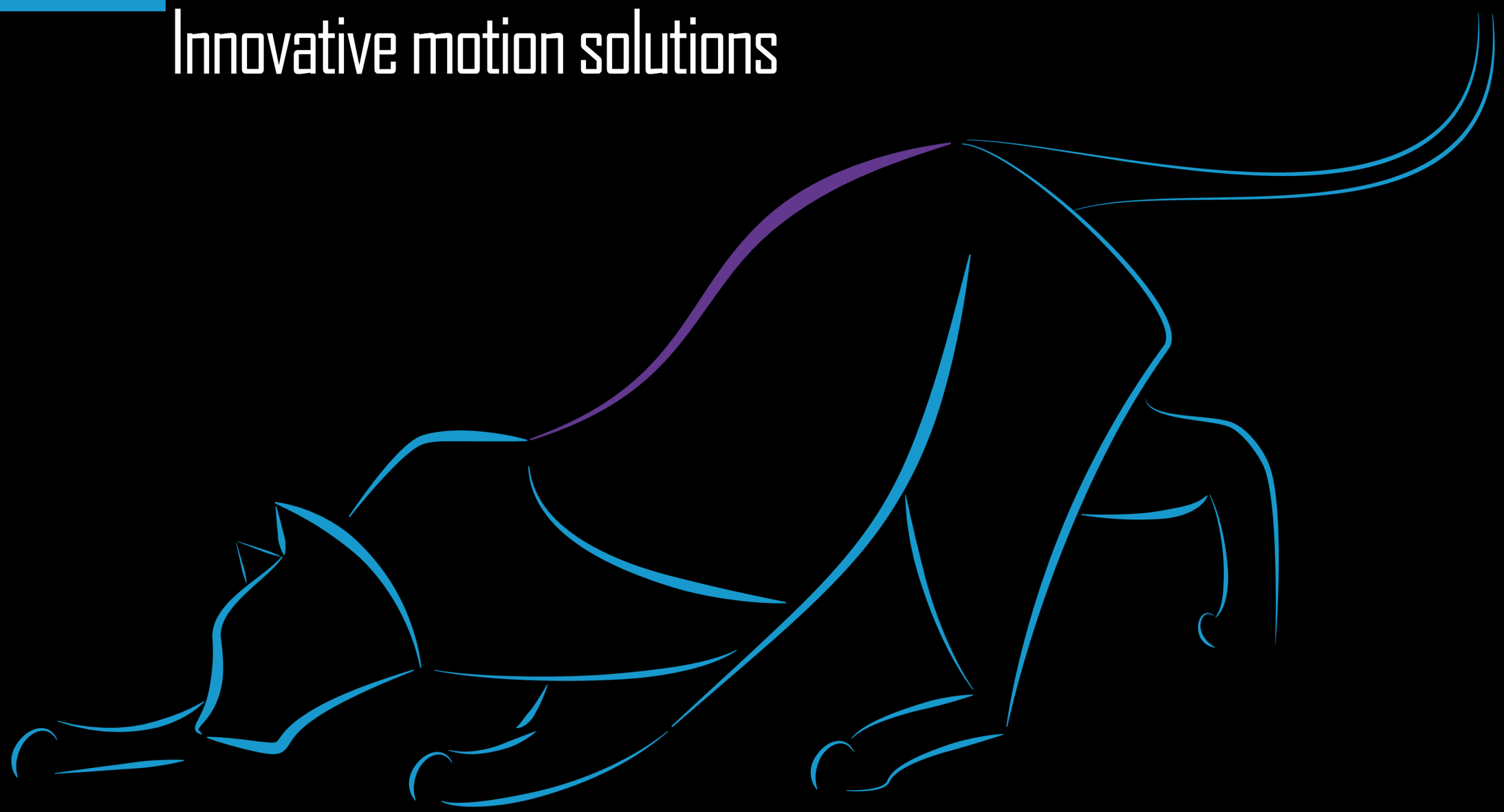
Hans

It will demystify some of the rules and guidelines on using automation in shows

”

WImotion

Innovative motion solutions



What Is WImotion ?

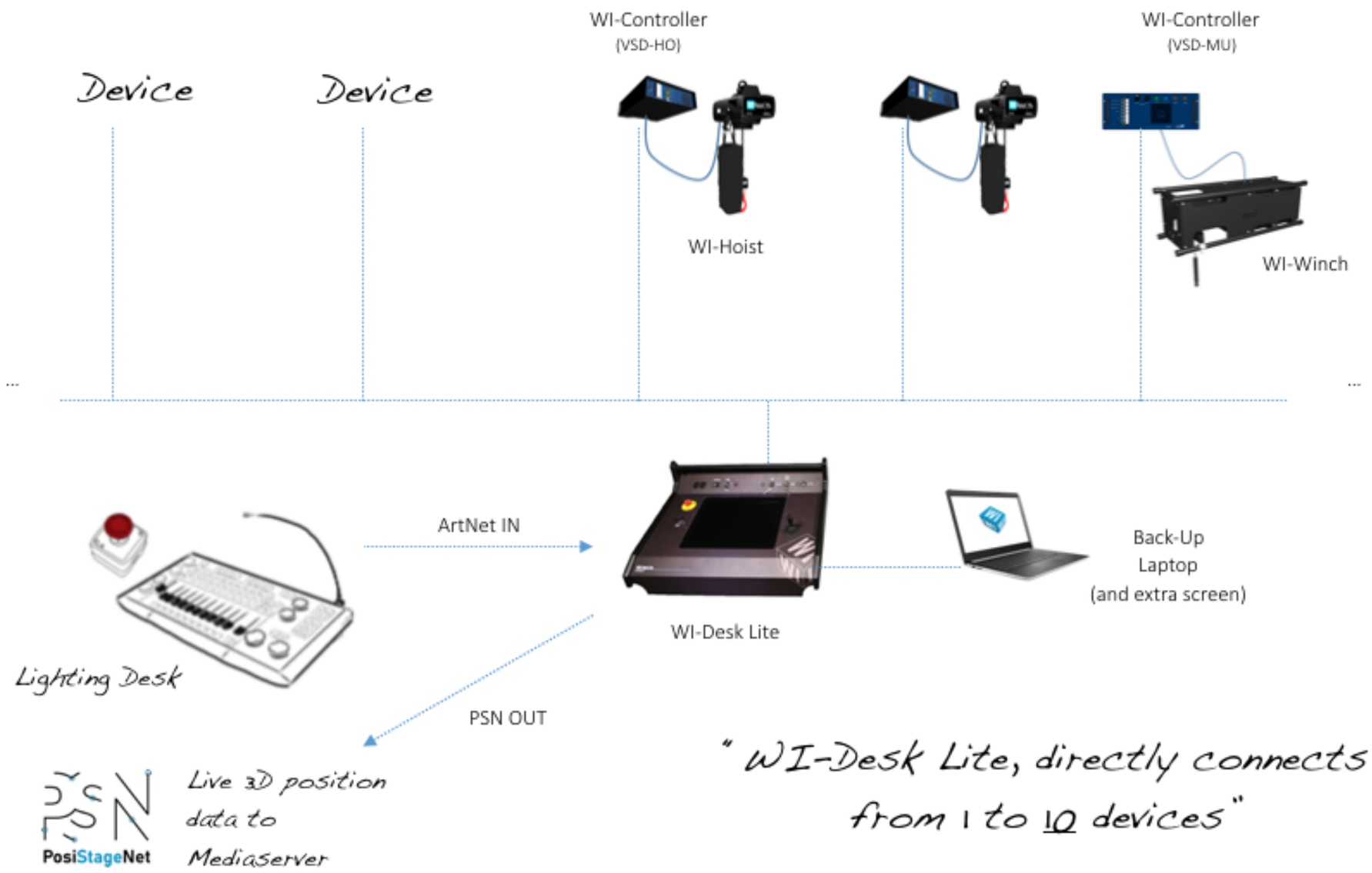
Meet our full line of hardware and software solutions for motion control and automation systems. All are in-house devices and in rental stock.

The range of products works on different levels, allowing the show designer to make a range of fully redundant SIL3 Motion Configurations from small to huge!

Let's take you on a configuration tour... by using some examples.

LET's SHOW you... some examples

1. A SMALL WImotion Configuration



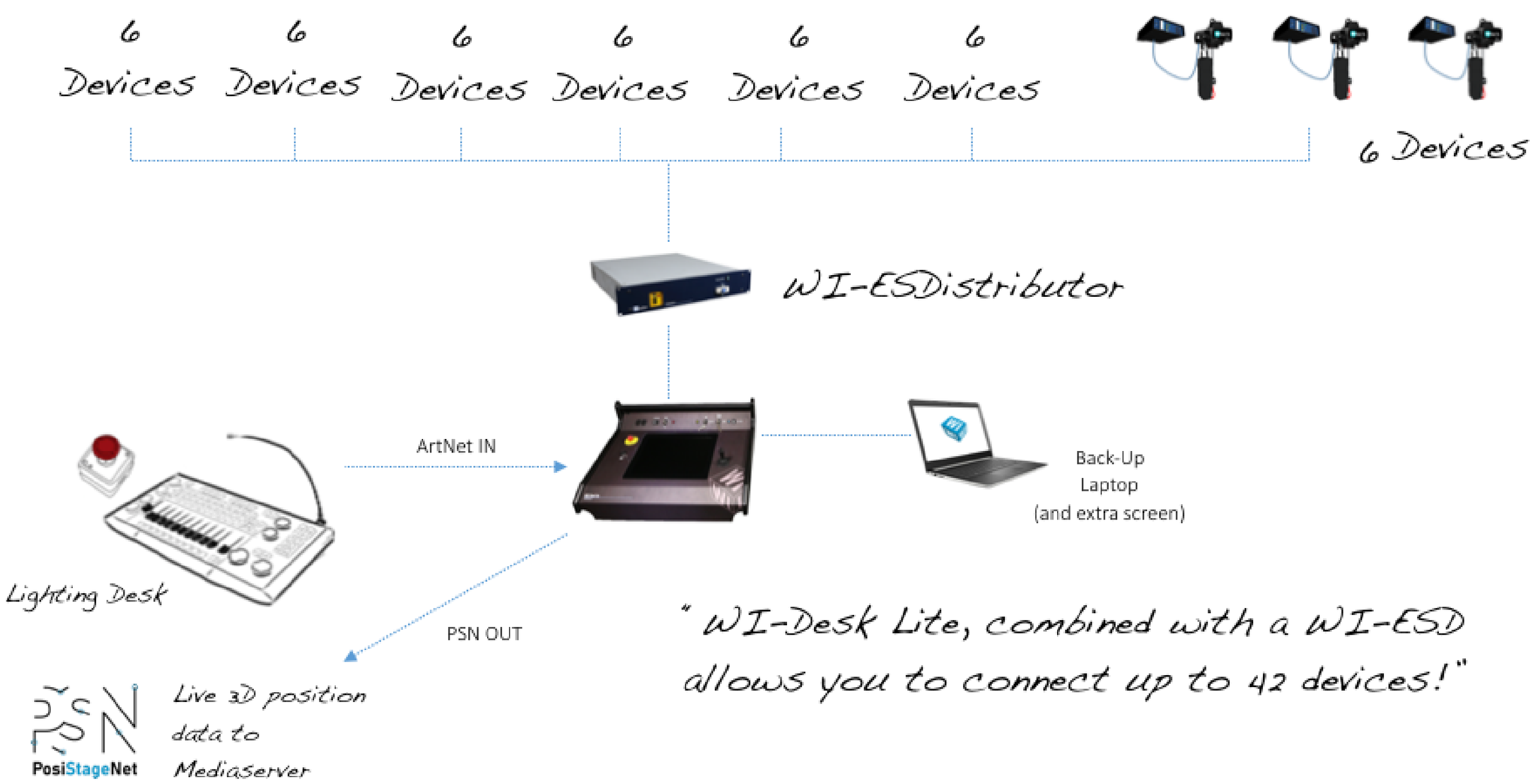
Tips for the Designer:

You can connect up to 10 devices directly to the WI-Desk Lite.
In this configuration, we took 8 WI-Hoists with VSD-HO WI-Controllers and added 2 WI-Winches connected to the VSD-MU WI-Controllers.
Hold-To-Run and E-stop are built into the WI-Desk Lite with a real SIL3 safety function. The APC feature will auto-detect the devices. The lighting desk can send ArtNet to the WI-Desk Lite. The WI-Desk Lite can send out PSN info to the mediaserver.
Back-up your show by installing MCA software on your laptop, benefitting from the fact you have an extra screen and connect it to the desk. Congratulations, you have built a real SIL3 set!

It's getting BIGGER

going well... let's build something larger

2. A MEDIUM WImotion Configuration



Tips for the Designer:

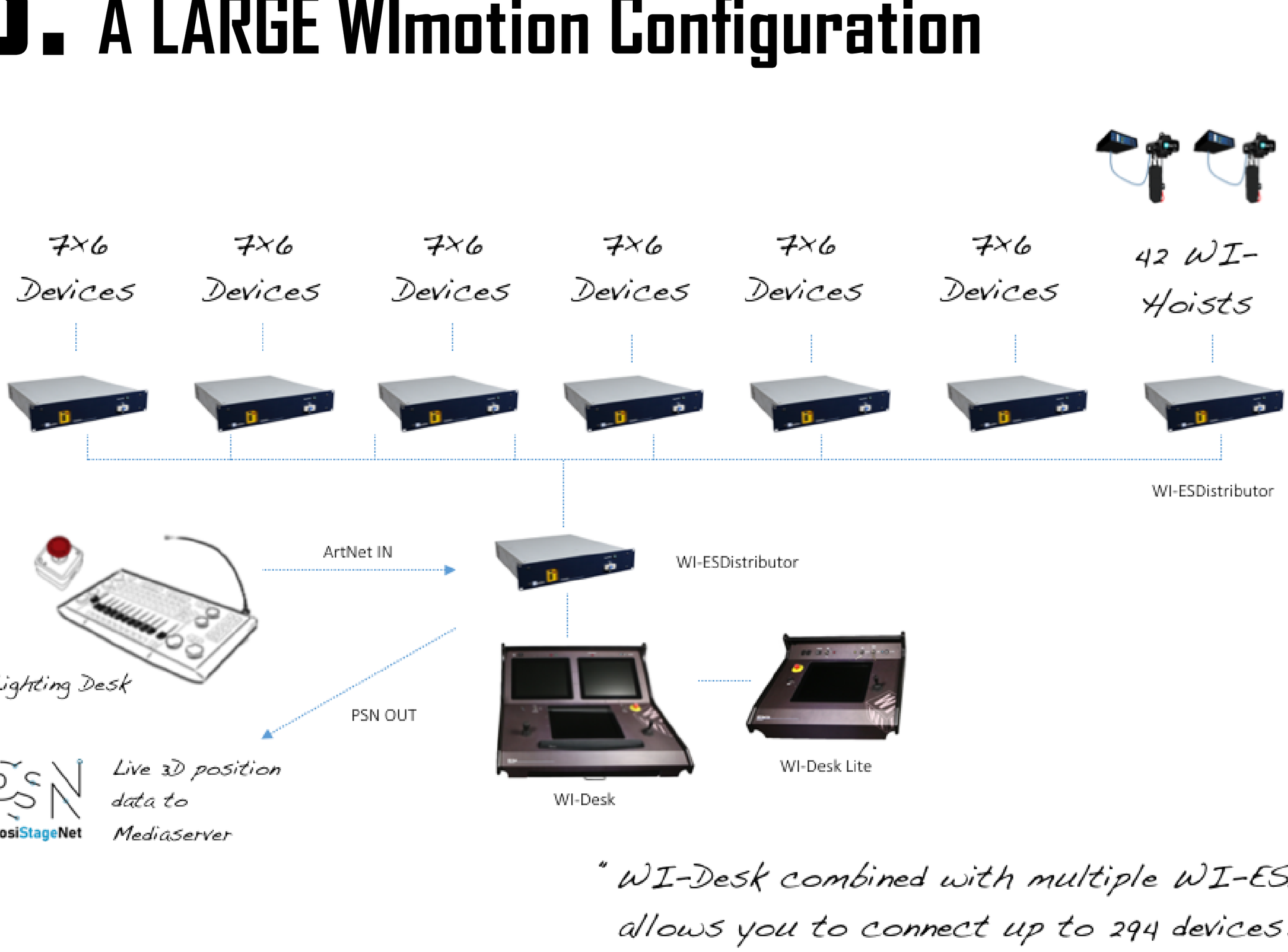
The WI-Desk Lite is connected to the WI-ESDistributor, which can connect up to 42 devices.

Back-up your show on a WI-Laptop. Nice to know... our WI-Desk Lite flight cases have a dedicated space for a WI-Laptop, so there's no need to worry about that. Having an extra screen will come in handy if you have a Spotter or anyone else in the FOH who wants to follow your motion cues.

Do your maths!

Let's multiply that...

3. A LARGE WImotion Configuration



"WI-Desk combined with multiple WI-ESDs allows you to connect up to 294 devices!"

Tips for the Designer:

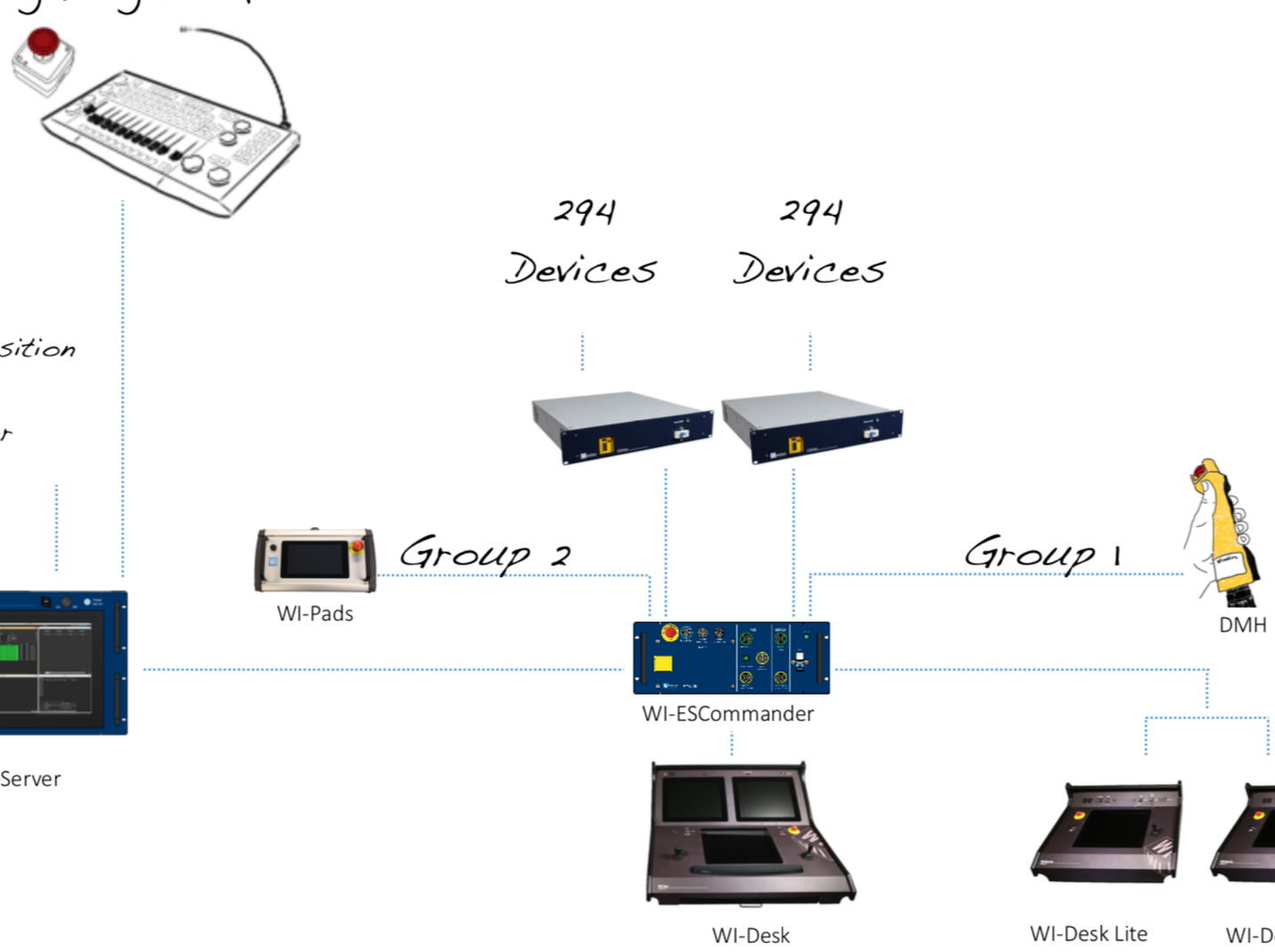
Now you're building in an extra layer of WI-ESDistributors and shifting to a full WI-Desk. This makes it possible to multiply your entire configuration and control up to 294 devices!

We are bringing in an extra WI-Desk Lite as back-up here, 'cause you might be bringing in an extra operator to manage 294 devices.

Remember... these MOTION devices can be anything... rotators, winches, hydraulics, tracks, ... anything that makes your scenery move or your actors fly.

BAM! I bet you'll make this XXL look great

4. AN XXL WImotion Configuration



"WI-Desk, combined with the WI-ESCommander and the WI-ESDs allows you to connect up to 588 devices!"

Tips for the Designer and his team:

You're going all the way here... In the center of control is the WI-Desk, backed up by 1 or 2 WI-Desk Lite. To manage all these devices, you will probably bring in Spotters or even several Spotters-Operators with a WI-Pad, that gives them more authority than just holding the Dead-Man's-Handle. This means, we're adding a WI-ESCommander, to manage and zone all safety functions. The WI-ESC will allow the creation of groups. Within that group, you can define 3 spotting/operating profiles: Global, Local or Local-Local... more on this later.

If needed you can reinforce this configuration by a WI-Server.
Motion acts are cued by the Lighting Console, and safely parameterised by the WI-Desk. This configuration allows you to control up to a total of 588 motion devices!

Let's dive into the bits and bytes of this brand new hardware you've just met...

= the Building blocks for your Configuration !

WI-Desk NEW!

The motion operator can 'joystick' the device or objects into position, using the all-new WI-Desk with its touch-screen enabled user interface, running our proprietary MCA software. The WI-desk has an integrated 'Hold to Run' function, so the operator can safely leave the desk with no risk of accidents or unwanted interference!

The WI-Desk has an Art-Net in functionality to talk to lighting consoles plus integrated SIL3 E-stop.

WI-Desk

2D and 3D Joystick, Touch Screen 15"

For smaller motion configurations or intermediary motion controlling operations, a WI-Desk Lite or WI-Pad might be an option.

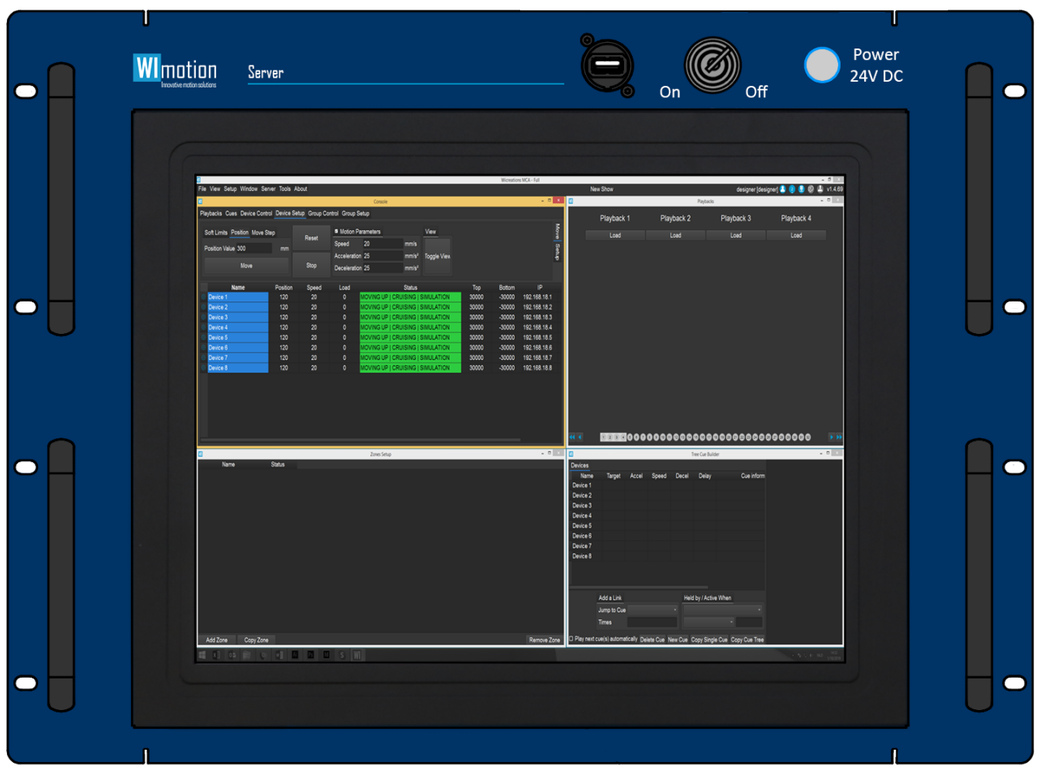
WI-Desk Lite

2D Joystick, Touch Screen 15”

WI-Pad

Easy to Use
Rigger Handheld
Running Playbacks

WI-Server

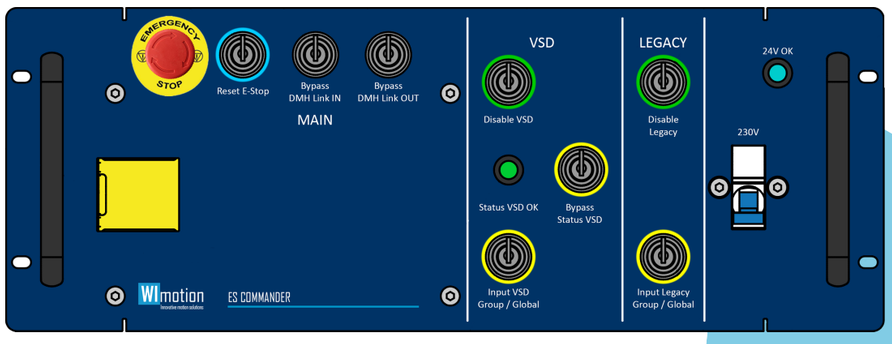


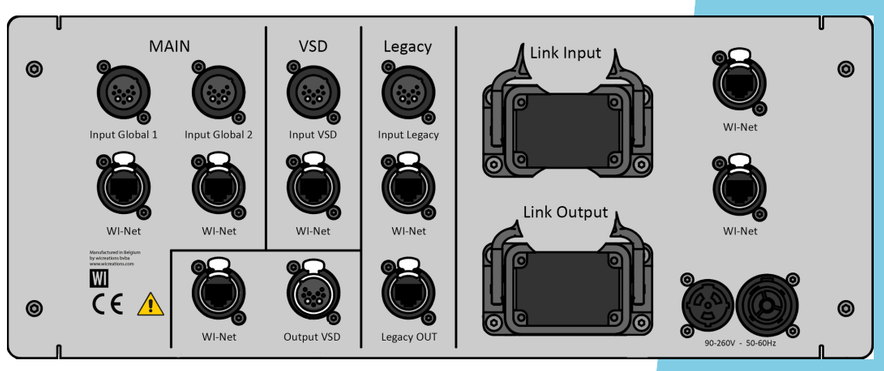
The WI-Server is optional for any configuration as a back-up or for extra processing power. The server application links to other external devices such as a lighting console (via Art-Net) or a media server for PosiStageNet.

A WI-Server Lite version is also available.

WI-ESCommander ESC

The WI-ESCommander connects all Devices to one Network (Data & Safety). Adding the WI-ESC to a configuration offers DMH control in groups, or in a global set-up. The ESC allows 2 Main inputs (Desk 1 and 2) and 2 Group inputs (Group 1 and 2). Group inputs can be global, local or local-local The ESC manages both motion data and safety over separately cabled paths.

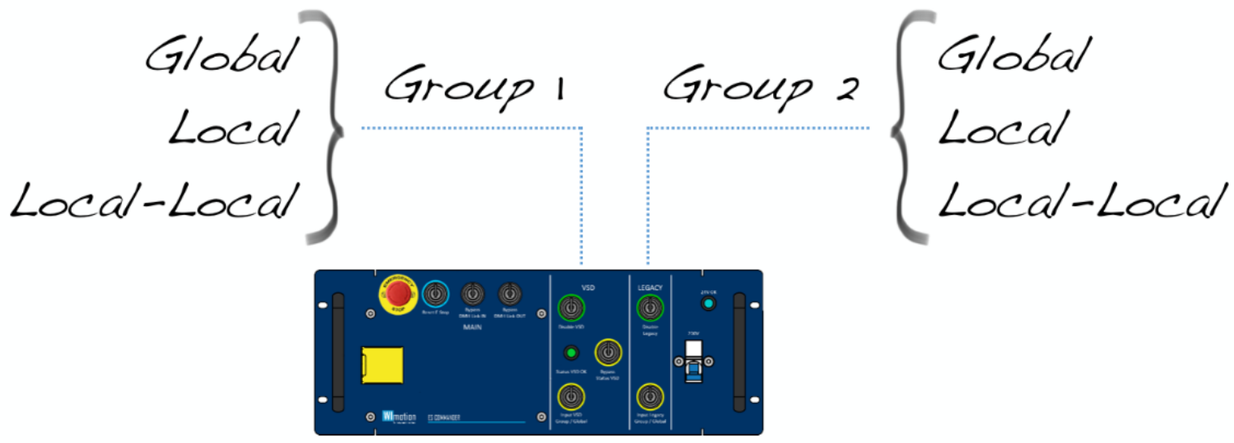


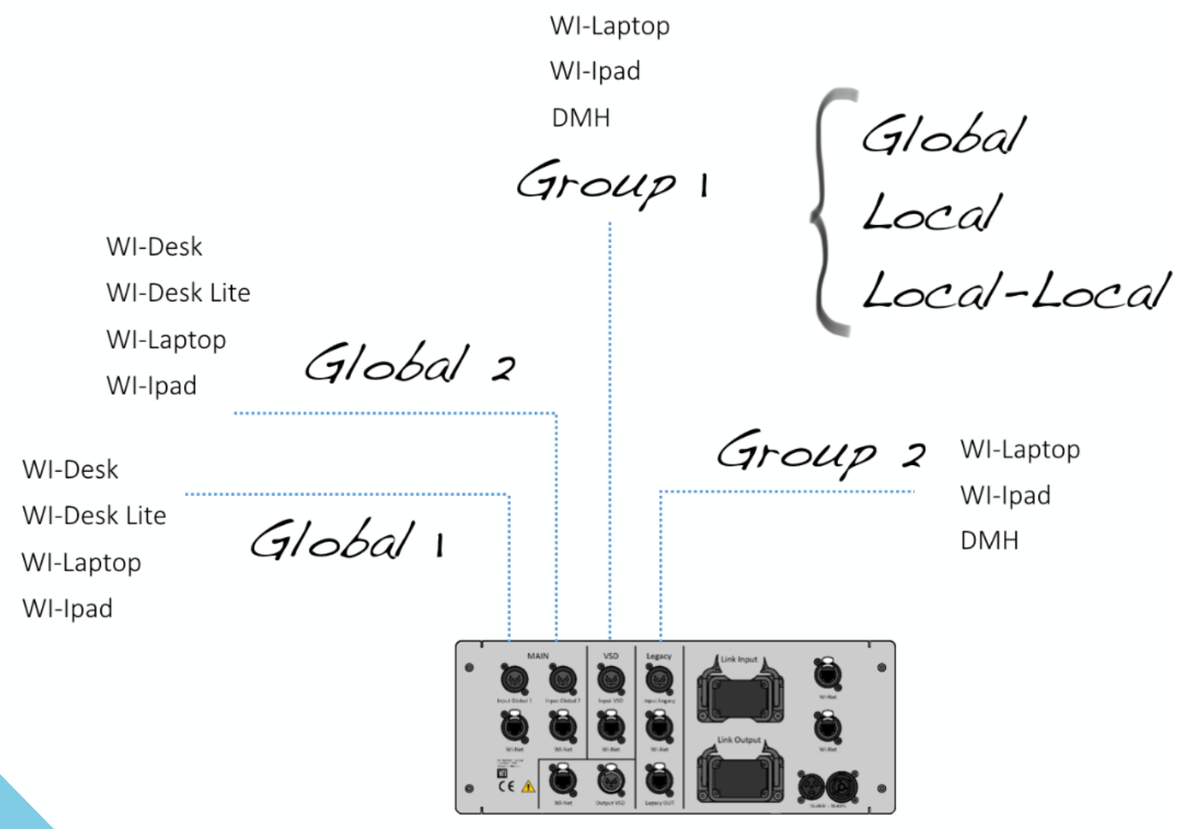


Global Preset: Directs safety of all devices of the global configuration (both E-stop and DMH)

Local Preset: Allows a group function by adding a Spotter to the motion configuration who holds a DMH Grip and automatically signs for clearance to the WI-Desk by pressing it.

Local-Local Preset: Allows overruling the DMH. Instead of giving a Run or Halt-to-Run cue, the Spotter-Operator can steer the device from his WI-Pad or WI-Laptop.





WI-ESDistributor ESD

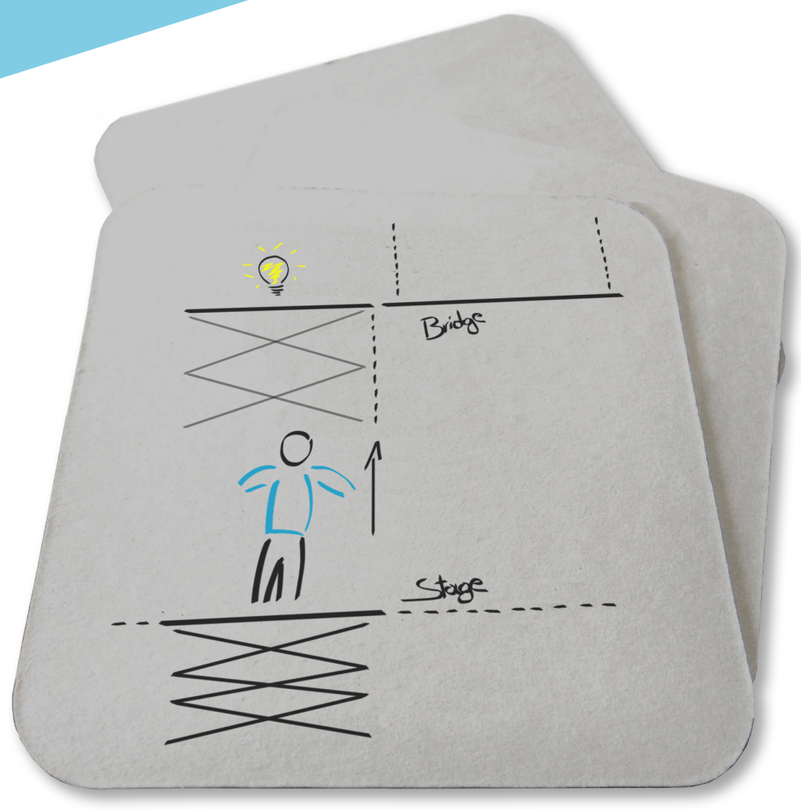
The WI-ESD links up to 7 WI-Controllers and assures the network of the Motion Configuration at SIL3 level.

WI-Controller VSD-HO & VSD-MU

Four different types of variable speed drives have initially been developed to run with the WImotion system, with the typical one being the VSD-HO for hoists. Currently they are available in capacities from 1.5 – 4kw – with larger sizes available on request.

There are two multifunctional VSD-MU drive alternatives – SIL3 and SIL3+ that can be supplied according to the needs and flexibility of a project's SIL3 settings. The SIL3+ alternative has the extra capability to read several controllers through a PLC.

All controllers are available from WImotion's rental stock, equipped with SIL3, SLS and SLA options allowing the movement of people or objects above crowds.



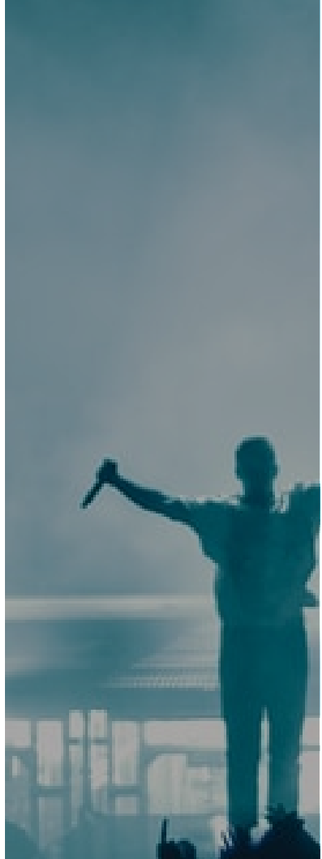
I/O Connector

A WImotion configuration can be connected to all sorts of other devices through I/O boxes.

The I/O box is a possible gateway to any other electrical or mechanical device added to a WImotion configuration.
So, what better way to demonstrate this, than take out the good old pen and a simple beermat... the way many great show ideas have evolved.

THINGS TO KEEP IN MIND

E-stops and Dead-Man's-Handles are widely known obligatory industry functions in devices in general and create a genuine feeling of 'safety'. Pushing the E-stop usually generates a Show Stop scenario. Releasing a Dead-Man's-Handle is a safe gentle stop. Dead-Man's-Handles are a SAFE automated way of communication in the operator's team. The outcome is a clear state of GO or NO GO for motion. Pushing or releasing a Dead-Man's-Handle implies a Run or Halt of the motion devices, avoiding the need for human language intercom interpretation or unfortunate misunderstandings. In short: if the Dead-Man's-Handle is not pushed by the Spotter on stage, invisible to the motion operator, the operator will not be able to launch the act.
Until this point, it's all basic maths...



Let's move to level 2.

When configuring large motion acts, safety management becomes more complex and the WI-ESC can bring an extra dimension to the safety level. Here's an example: let's assume we are working in a XXL configuration. You are looking at a decent amount of devices to manage for 1 operator in the FOH. You're bringing in 2 Spotters-Operators to manage 2 elevators. They both have WI-Pads, and the WI-ESCommander has been set to Local-Local mode. The FOH motion operator launches the cue for motion and if the 2 Spotters-Operators pressed their DMH and confirmed the Run, the elevators will start to move. After the elevators have gone up and the artist is out, the Spotter-Operators can overrule the DMH and lower the elevator at their own judgement. This leaves the FOH motion operator to his other ongoing show tasks.

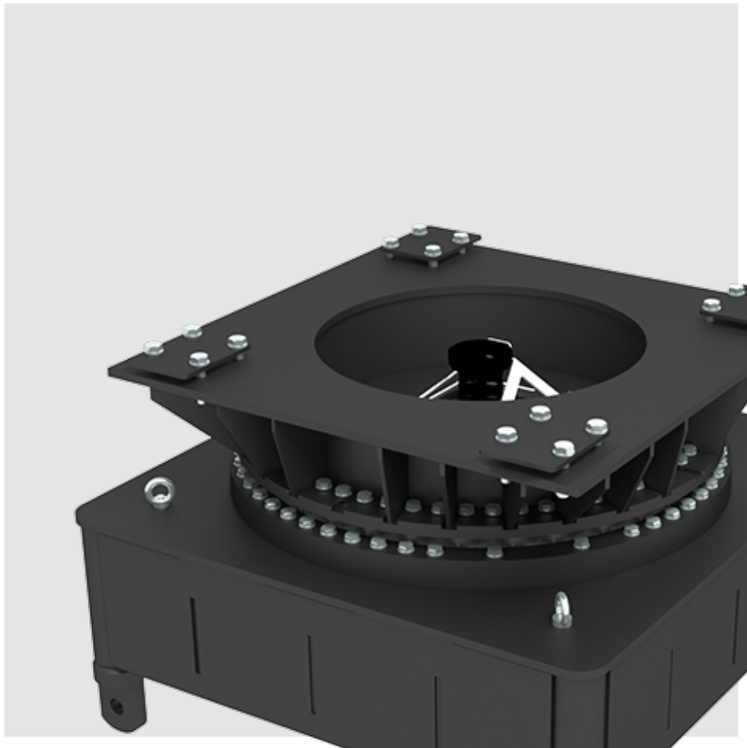
Systems & Devices

All WI-Hoists, WI-Elevators, WI-Bands, WI-Tracks, WI-Rotators, WI-Winches and more... tracking, hydraulics, ... Each and every one of them comes with CE conformity and a comprehensive User Manual.

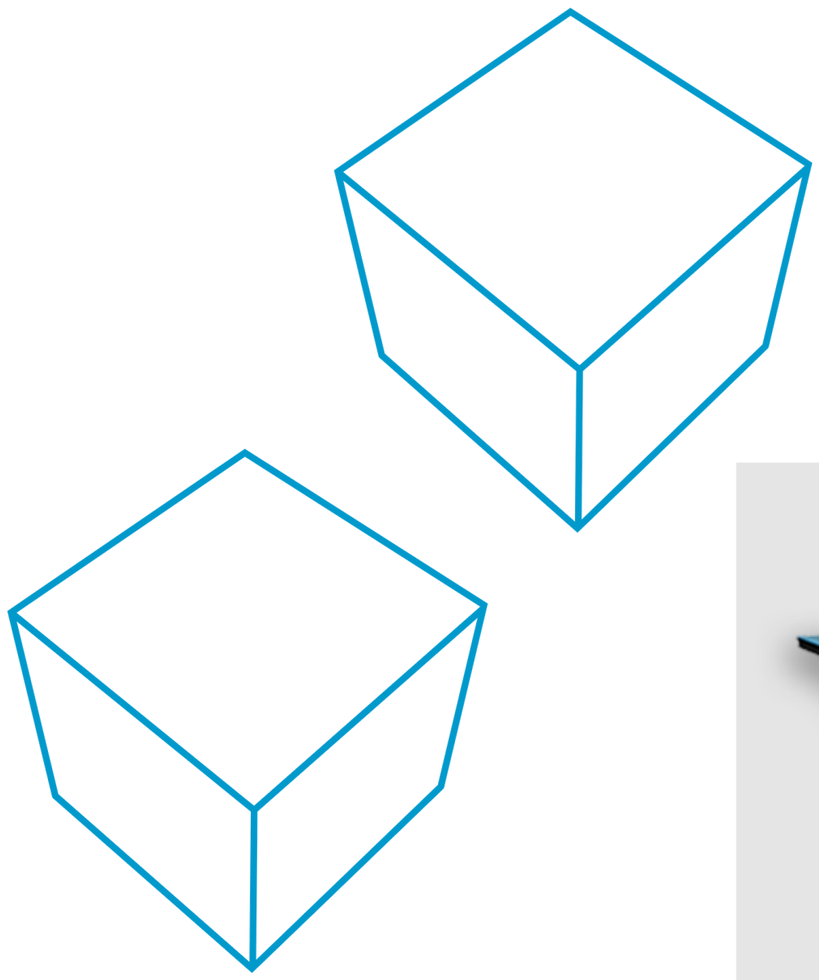
= in other words: every piece of machinery that makes things or people or scenery move

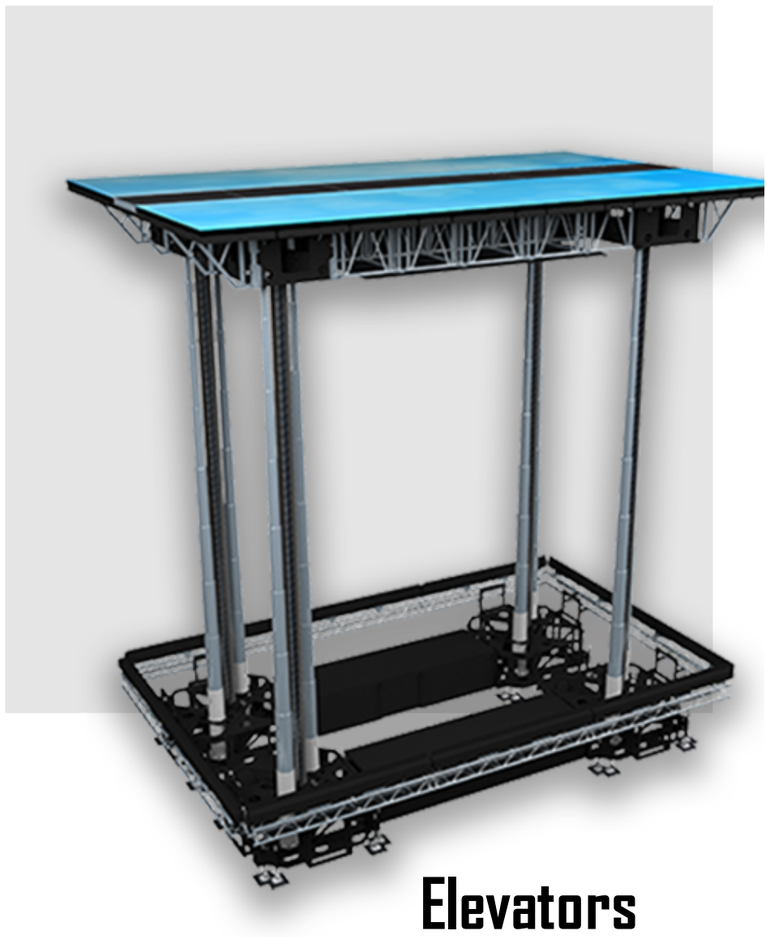
Silent!
True ZERO-SPEED
Dual Encoder
Integrated load cell
Dual silent brakes – Monitored
4 limit switches
Temperature monitoring
Hoists ID Technology
Intelligent Duty Cycle Management
Capacity from 200kg – 2000kg
Speeds up to 640mm/s or 38m/min
SIL3

WI-Hoists NEW!

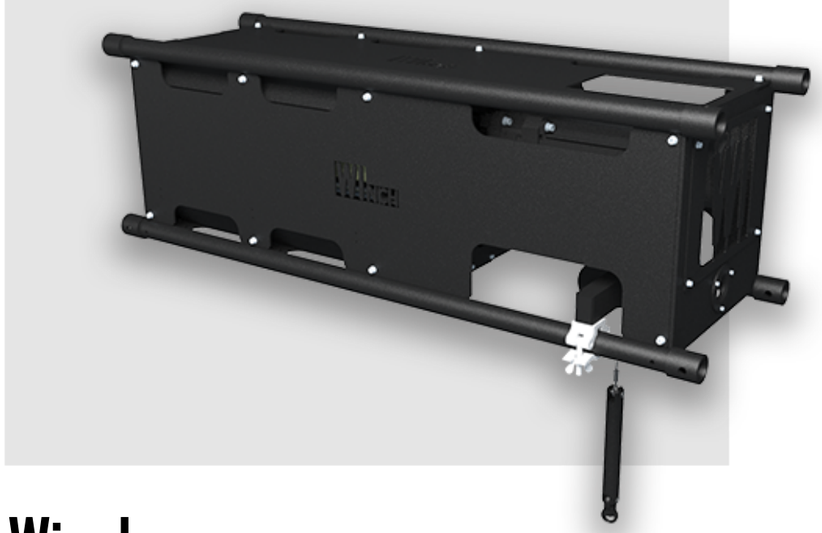


Rotators





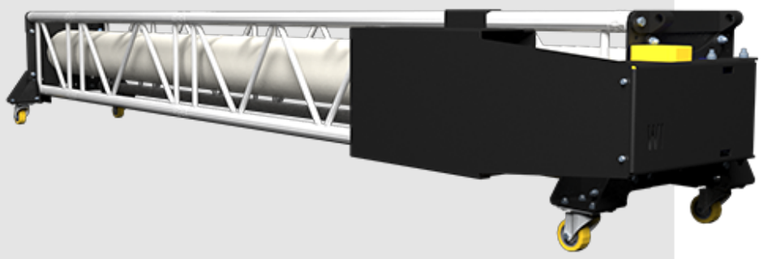
Elevators



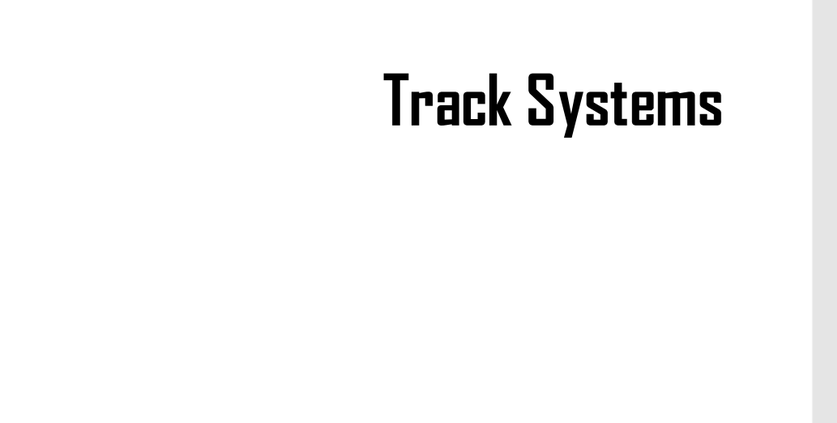
Winches

Band Winches

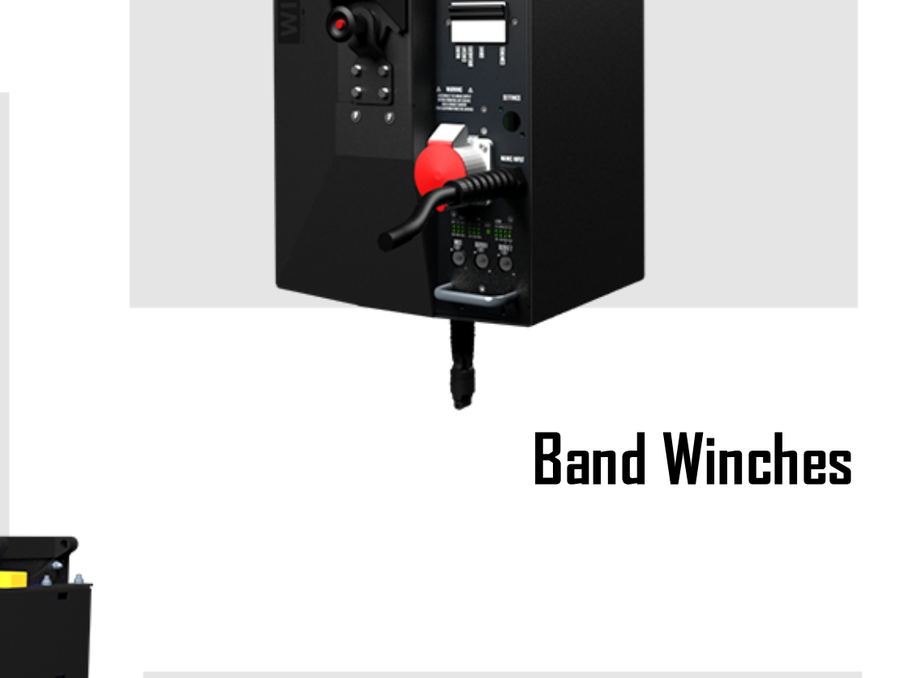
Track Systems



Roll Drops



Turn Tables



Bridges

Time To Talk About The


of WImotion...
MCA SOFTWARE

About MCA

MCA is our own proprietary motion software.

It is designed to be a fully redundant solution through its smart client-server setup with the possibility of adding multiple networked operating desks.

MCA has plenty of interesting functionalities...

Check these out:

Profiled User Log-ons

Profiled User Log-ons enable multiple users to access the system simultaneously - at different levels - using a USB dongle. This allows the creation of a roles and responsibility model in the motion operator's team or gives limited access to other FOH staff. Zone settings allow dedicated (selectable) Playbacks, Devices, Groups and Objects to run or play via different logins. Think about this in the context of touring builds or break-downs.

Integrated APC Feature

in other words... Simple Set-up of your configuration!

The Integrated APC feature allows devices to be set up using an Automated Parameter Control (APC) feature.
This accesses a full database of all the machinery being used by the system and parameterises the device setup with the correct personalities according to the "intended use of the machine / device" as described in the user manual.

All relevant safety settings, control protocols and parameters will be automatically assigned and the motion operator can be 100% sure they are using the right parameters for the devices on the system, consistently reducing any margins for error.

The Tree Cue Creator

The Tree Cue Creator is a user-friendly feature that links cues by moving them above or below one another. In each cue, Single Devices, Objects or Simple Outputs can be selected. Simple Cue programming and drag-drop linking.

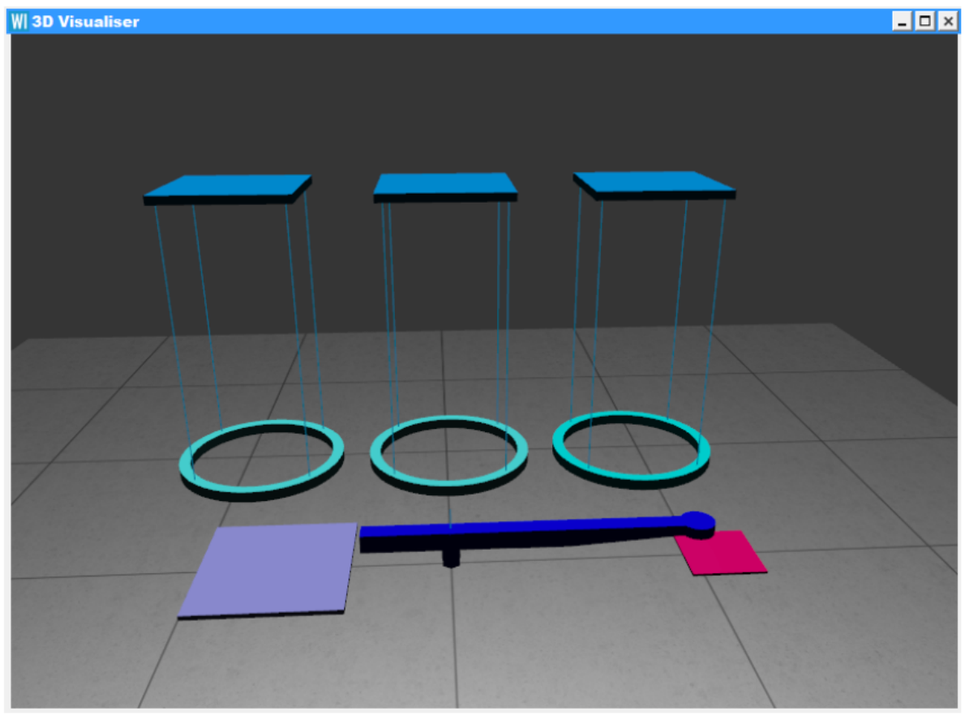
Right at the heart of WImotion is WI's proprietary MCA software.

Device or Object Control

For single axis movements, Device Control or Group Control can be used. For more complex moves, Object Control can be selected.

Objects set up is fast and straightforward – due to the availability of Object personalities in the Library and the option of a super-fast direct control link - or the wire control link which requires coordinates to be set. Object movement works according to the XYZ co-ordination and each object can be activated X, Y, Z, plus P (Pan, that rotates around X), T (Tilt that rotates around Y) and R (Rotate, rotates around Z).

A 'Child' object can be connected to a 'Parent' object to show the exact movements in the 3D visualiser.



Art-Net integration

The motion of Devices and objects can be cued via Art-Net within the set parameters, locked in the WI-Desk. This makes it easy to set up devices like roll-drop blinds, band winches, hoists, etc., and cue them safely through a Lighting Console.

PosiStageNet

PosiStageNet - a real-time 3D positioning protocol - allows positional tracking information to be fed out of the MCA into a media server which is set up within the PSN protocol – so video and moving image content can be synched exactly with moving screens and other objects. A sample rate of 60ms is standard.

Full Redundancy

Full Server-Client Setup.

Operating different operating positions is possible!

Freelance Motion Expert Ross Maynard, about his first experience with WImotion and MCA

Having been asked for input on the development of MCA, I have seen how powerful the application can be.

During its first outing at Disneyland Paris where we had a performer flight at 6m/s and another using the X,Z and rotational dimensions, we implemented a few safety functions to make the flights as safe as they could be. By using check points and the time-cue, we were able to create some pretty complex sequences.

This combined with the ability to be able to accept IO intro and trigger events, MCA has proven itself to be a formidable player when it comes to automation in the entertainment sector.

On another project we integrated all the IO of a game show and ran the entire game show through MCA, triggering events across the studio when certain constraints were met.

MCA is quick to program and with its networked infrastructure it lends itself to an environment where multiple interfaces might be necessary, all drawing upon the same central server.

Although in the world of motion control software is never finished, and always under continuous development, what WIcreations have come out with on their first swing of the bat is very impressive!

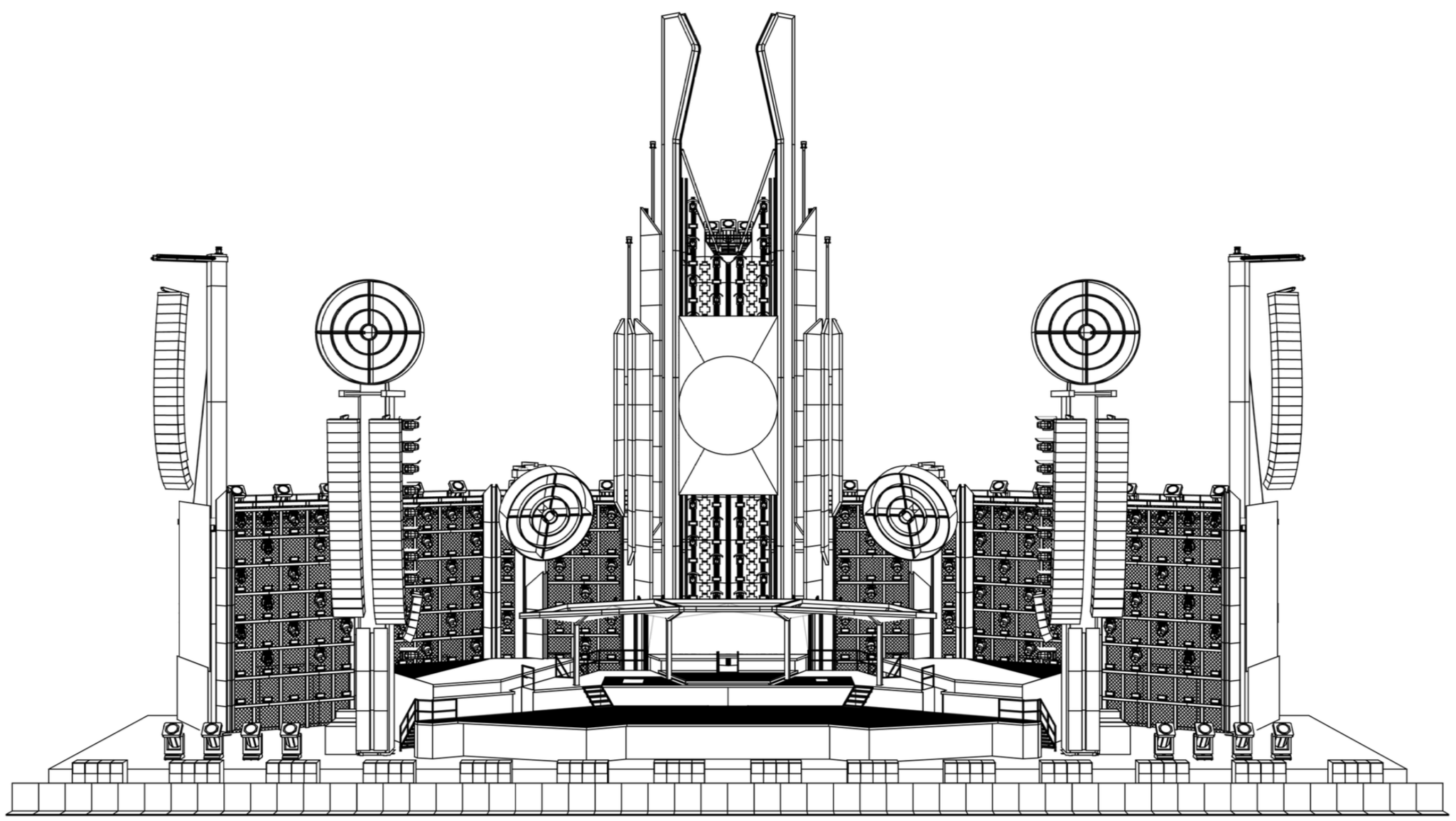
Ross

THE RAMMSTEIN CASE

Credit: Jens Koch

Rammstein needs no introduction... the 2019 summer stadium tour has been the talk of everyone in the entertainment sector for weeks now. Let's dig a little deeper in this case and tell you all about how Rammstein became the first full WImotion tour.

WIcreations supplied several custom staging and automation elements for the tour after being asked onboard by technical consultant Jeremy Lloyd of UK based Wonder Works. They have worked closely with Rammstein's own creative team, a collaboration between lighting designer Patrick Woodroffe from Woodroffe Basset Design (WBD), Production Designers Wieder Design Studio and Wonder Works.

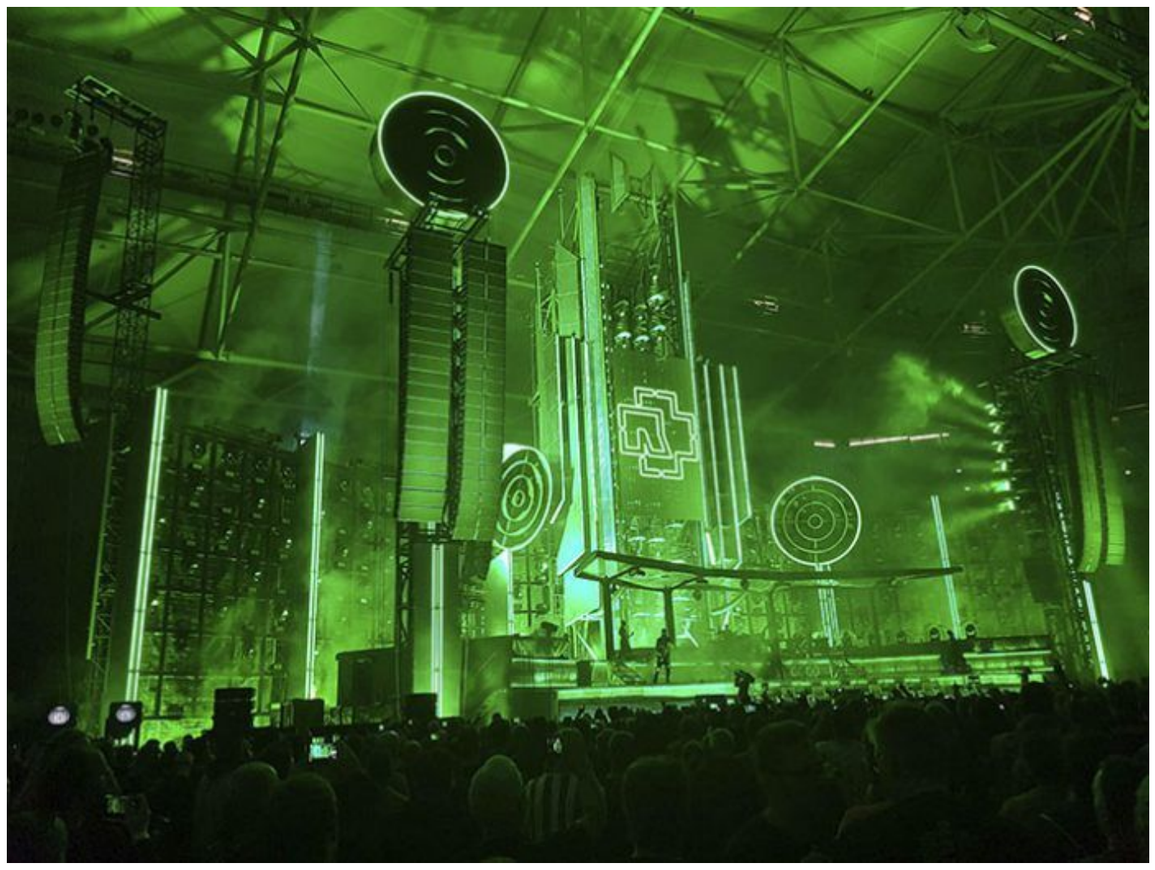


About the set

WI designed and built six back-wall structures which are part of the set and contain integrated lighting elements. These formed a grid-like structure of five wide by seven high sections, each measuring 6m wide by 11m high. All the lights are rigged on integrated mounts that slide over the grid structure and into place. This means they remain on the structural beams during transportation, making it extremely fast to install these six major structural pieces.

WI also created a set of 'Tron Fascias' as they are called, eight in total, six of which were positioned in between the back walls, with two rigged on the main left and right pod towers, and two more on the upstage pod towers. All the Trons have integrated RGBW led strips and ColorForce LED battens in bespoke waterproof housings. The fascia's vertical splits were dictated by the dimensions of the LED battens, with 42 units of the 72-inch version and ten of the 48-inch version, all integrated. The Trons and the fascia structures have digitally printed scenic panels to guarantee a consistent look and to add durability.

Manual handling was minimized due to all the WI-elements travelling in dedicated custom touring dollies, allowing them to be loaded in and out from these by their own overhead-rigged chain hoists, guided in vertical tracks.



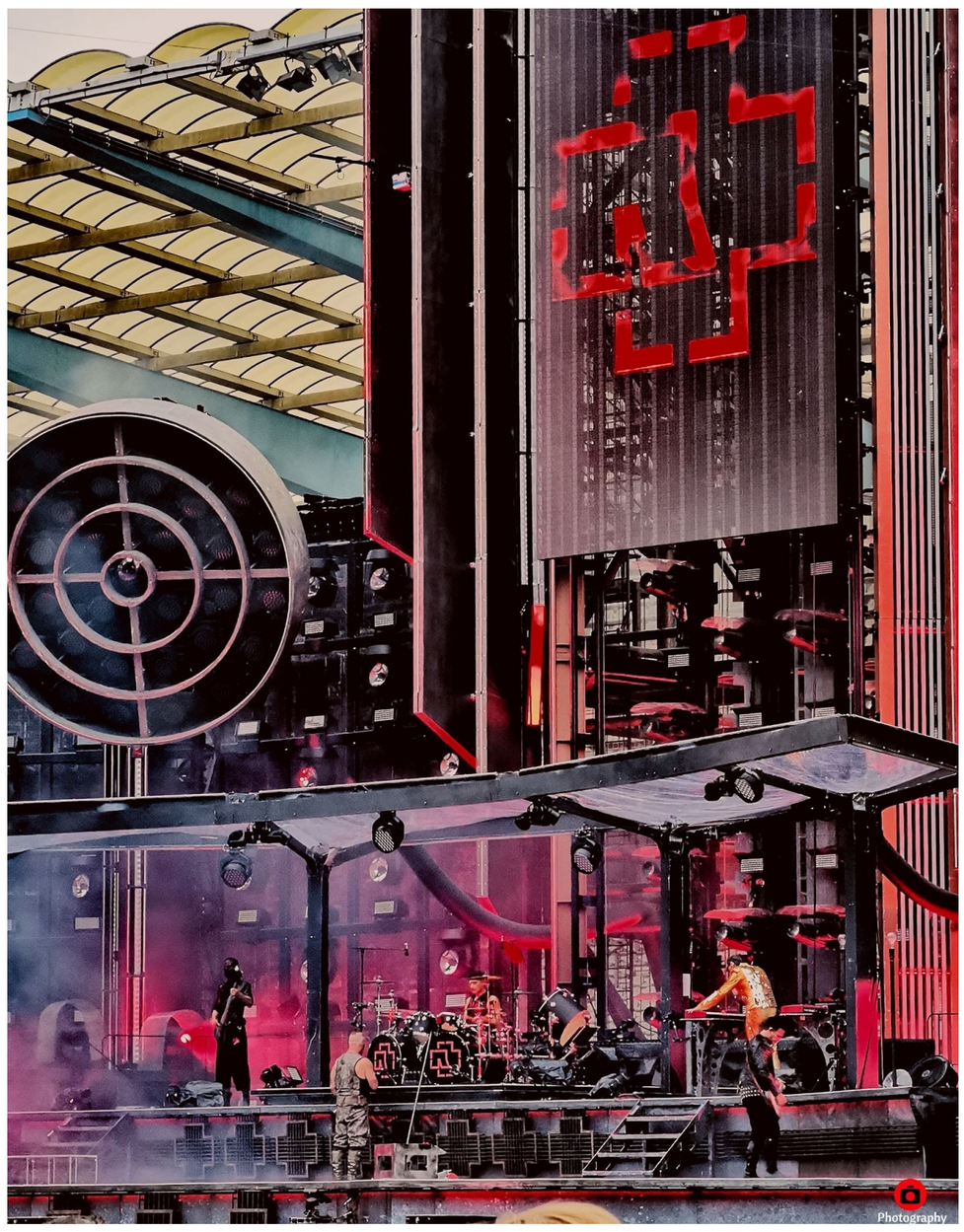
Credit: Jens Koch

The 400 square meter central tower had 23 fascia panels in two stacks of 11 and one stack of 10 on the front. This was made up from four vertical rails, each loaded with lighting fixtures with individual weather protection. Each of the main sound towers was fitted with moving lights on the onstage side and upstage sides. Again, these individually weatherproofed moving lights travelled up and down guiding rails on bespoke carriages, making installation extremely neat.

WI was also asked to create an easy-to-rig system for 10 kabuki drops. Six of these were deployed in the back wall area, with four more on the freestanding field towers. The kabuki frames each had four integrated kabuki brakes and could be loaded with the drapes and rigged from ground level. They were transported in their own custom built touring dollies.

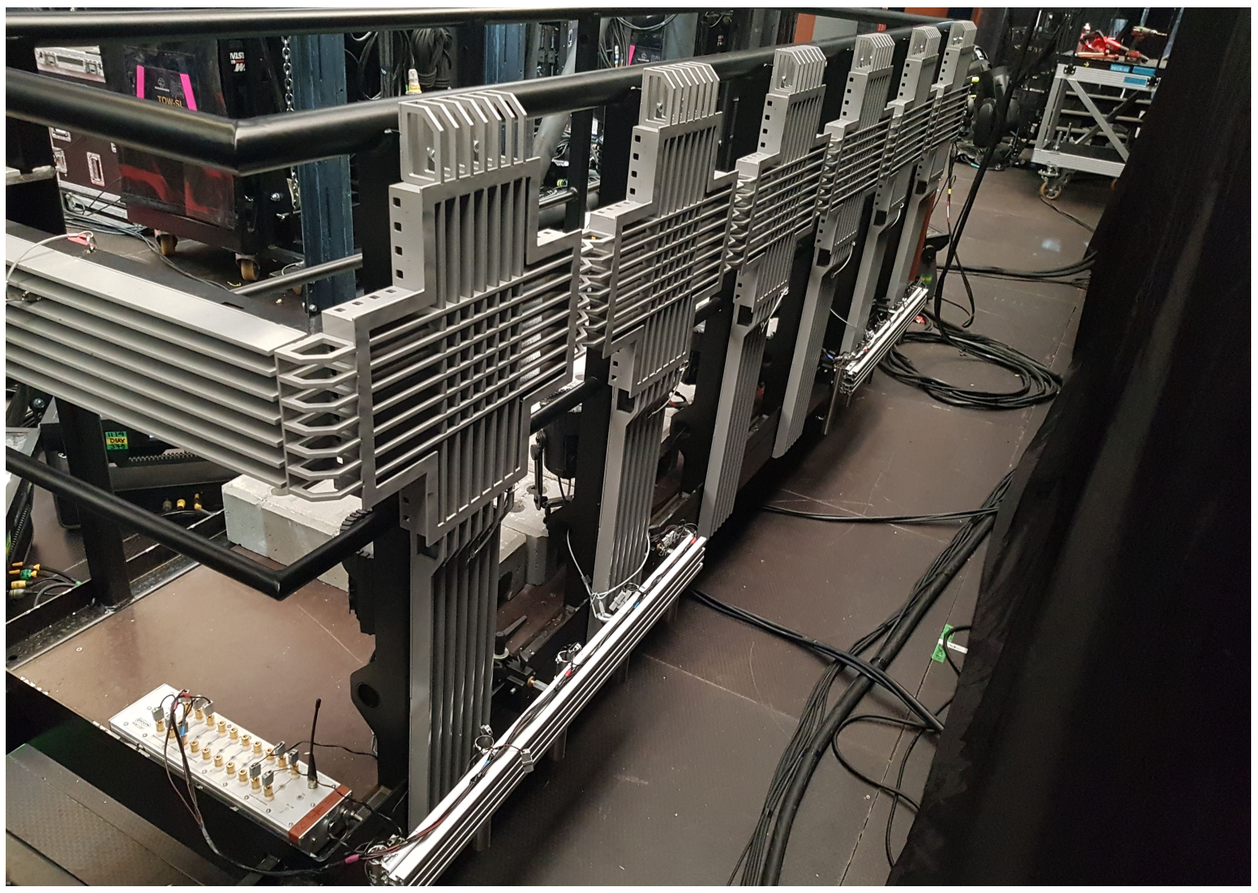
Credit: Photography Matthias Smet

As an addition to the Stageco-built band roof, WI created an easy to rig and neatly integrated pyro trough along the downstage edge (of the roof), loaded with a variety of pyro and flame devices complete with related wireless controlled electronics. The centrepiece of the main tower was formed by a 5m wide by 9m high HD video screen that moved 27 meters up and down the tower. The screen was wind-braced and guided along a set of vertical rails to allow an in-use wind loading up to 54 km/h!



Credit: Photography Matthias Smet

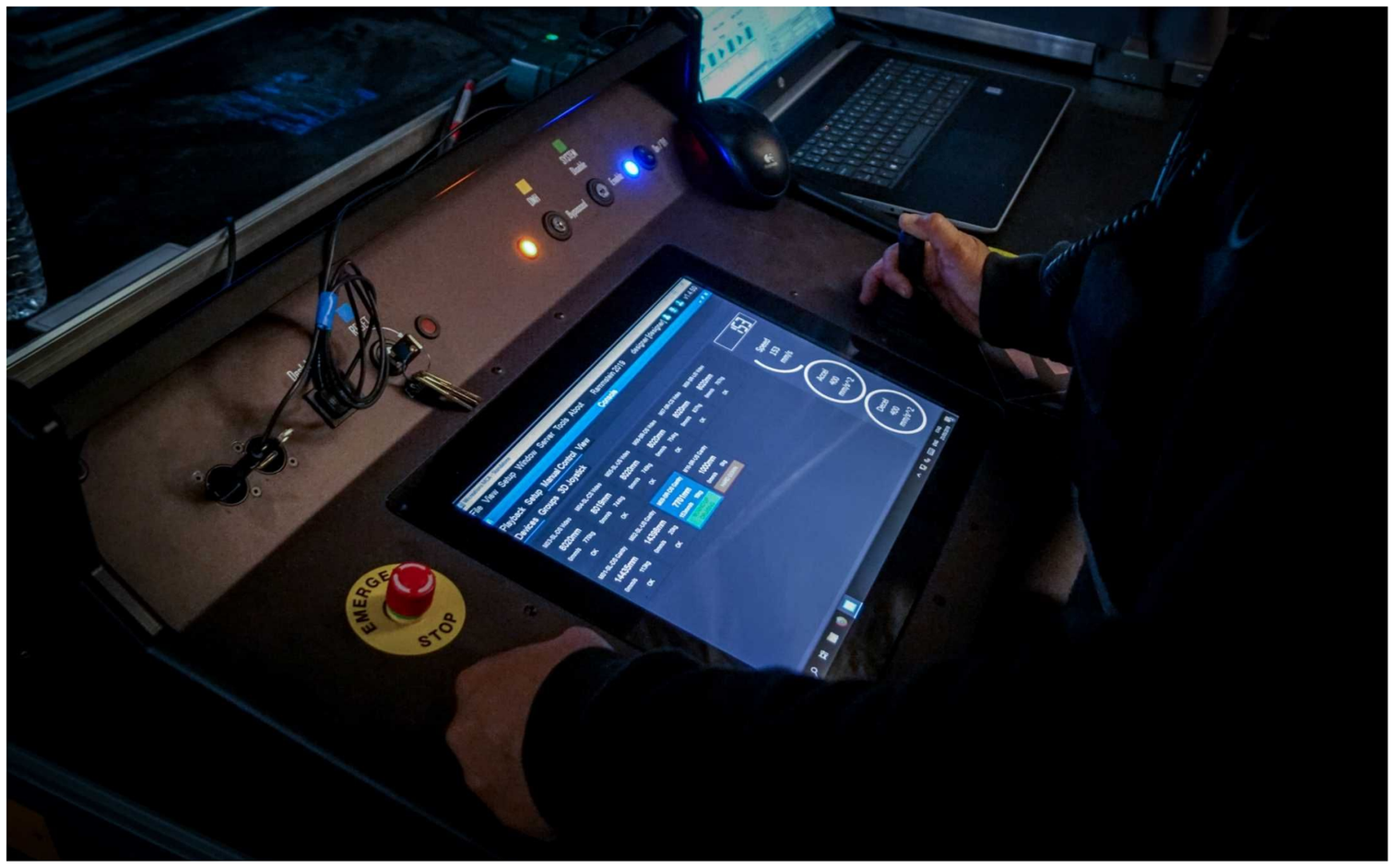
On top off this demanding but hugely exhilarating project, WI created a scenic lift platform that raises the six Rammstein band members 26 meters above the main stage. A total of ten 1250kg SIL3 WImotion hoists were used to move the video screen and band platform. Both could travel at speeds of up to 0.4m per second. The WI-hoists were controlled by the WI-VSD-SIL3+ controllers. These multi-purpose WImotion controllers guarantee a SIL3 safety level. At the heart of this machinery set is the proprietary WIcreations Motion Control Application (MCA) that deals with the individual and group synchronisation of all the moving chain hoists using SIL3 group position monitoring.



Spot on technical development tour support and 1st class crew... what more can a production manager wish for...”

Nicolai Sabottka, Production Manager Rammstein
ffp Spezialeffekte & Veranstaltungslogistik GmbH

Credit: Jens Koch



This production came just in time for us, as we'd just finished and thoroughly tested our new WImotion Range of Solutions." - Hans Willems

Using the all-new WI-Desk Lite software, the operator can 'joystick' the hoists into position. MCA allows for the easy setup of group halt options, enabling a 'position lock' for all motors in a group and to set the maximum group and individual channel loads.

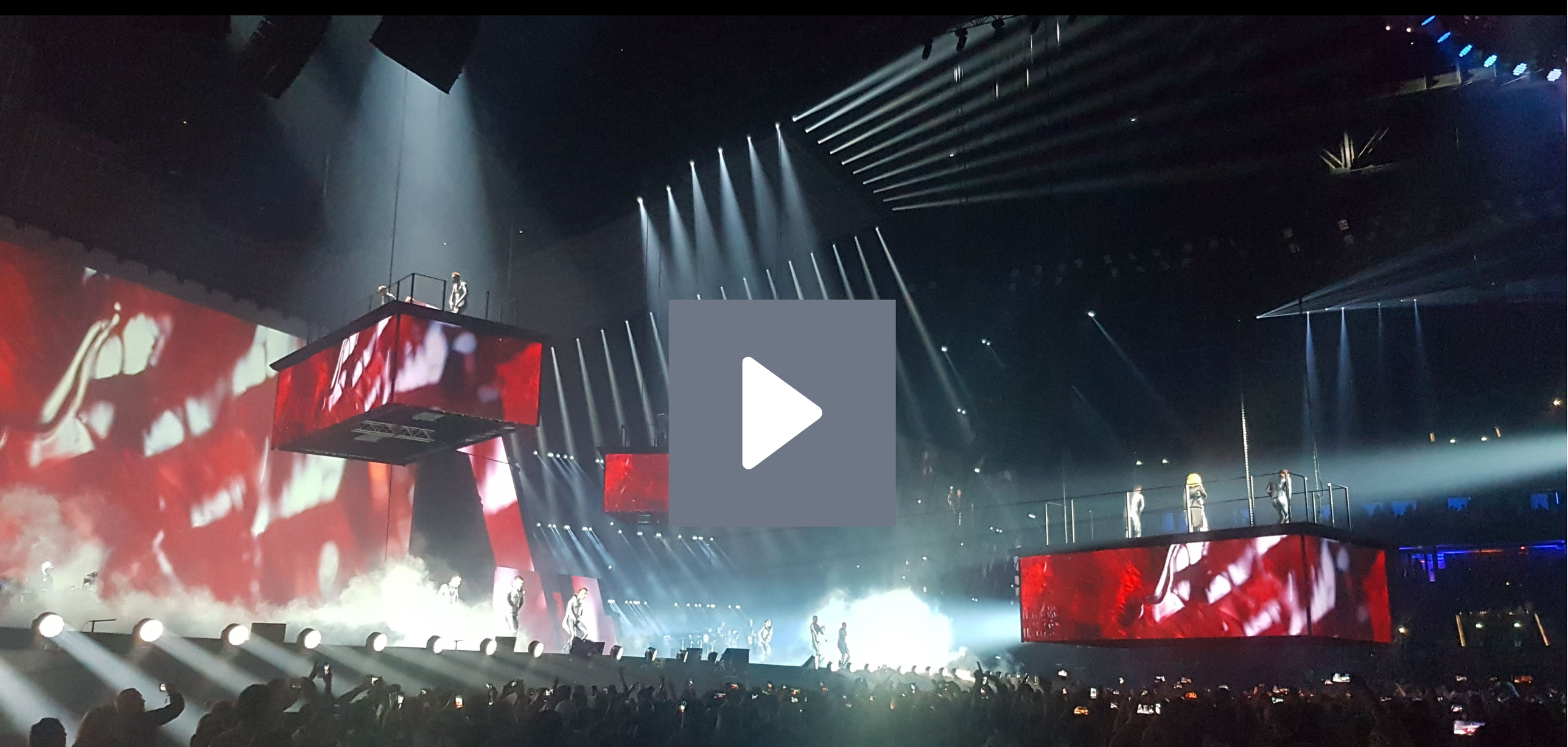
The MCA user interface is complemented with a WI-ESCommander unit and a SIL3 group-position monitoring providing protection against loss of the group synchronisation. The WI-ESCommander also acts as Emergency Stop and a Hold-to-run hub for all devices; it monitors each group's SIL3 upper and lower data-limits for all dual-encoder WI-Hoists, and it safely halts the movement in case of positional discrepancies. This innovative safety system concept allows hassle-free plug-and-play configuration of daisy-chained drives and a variety of safety signal distribution modules for the most flexible setups. WIcreations commissioned Blumano to co-ordinate the risk assessments and SIL3 documentation for this project.

It's always hard to credit everyone who contributed to the show...
Here are the colleagues/companies with whom we collaborated closest:

Consultant: Jeremy Lloyd - Wonderworks | Production Director: Nicolai Sabottka | Show Design: Woodroffe Bassett Design | Lighting Design: Roland Greil & Patrick Woodroffe | Production Design: Florian Wieder | Set Design: Cuno Hahn | Scaff and steel supplier: StageCo | Stage risers: Brilliant Stages | LX Programmer: Marc Brunkhardt | Video Programmer: Tim Hornung | Lighting Director: Faren Matern & Marc Brunkhardt | Camera Director: Sven Offen | Live Visuals: Haegar De & David Gesellbauer | Lighting Vendor: Neg Earth Lights | Video: Solotech DeKalb and of course a Special Mention to our Awesome Crew and Technicians on the job: Drika, Brecht, Tim and to all involved in our warehouse! #YouRock!

Credit: Jens Koch

THE MYLENE FARMER CASE



This involved the design and engineering of several flying and moving elements - including three flying and rotating video cubes, a 30 meter long retractable catwalk and moving video objects - for Canadian-born French singer songwriter and superstar Mylène Farmer's nine sold-out shows at La Défense Arena in Paris.

The Editors cut:

Mylène Farmer was the first full rental in stock WImotion project, using the WI-Desk, MCA software and a lot of stock devices. It was a project managed by WI's Koen Peeters. Two WI-Desks were used, one for the Anneau and its tracking access platform, plus the three dimensional movements of the Cercles … and one for the Blocs, the proscenium and the seven Triangles.

Setting the scene…

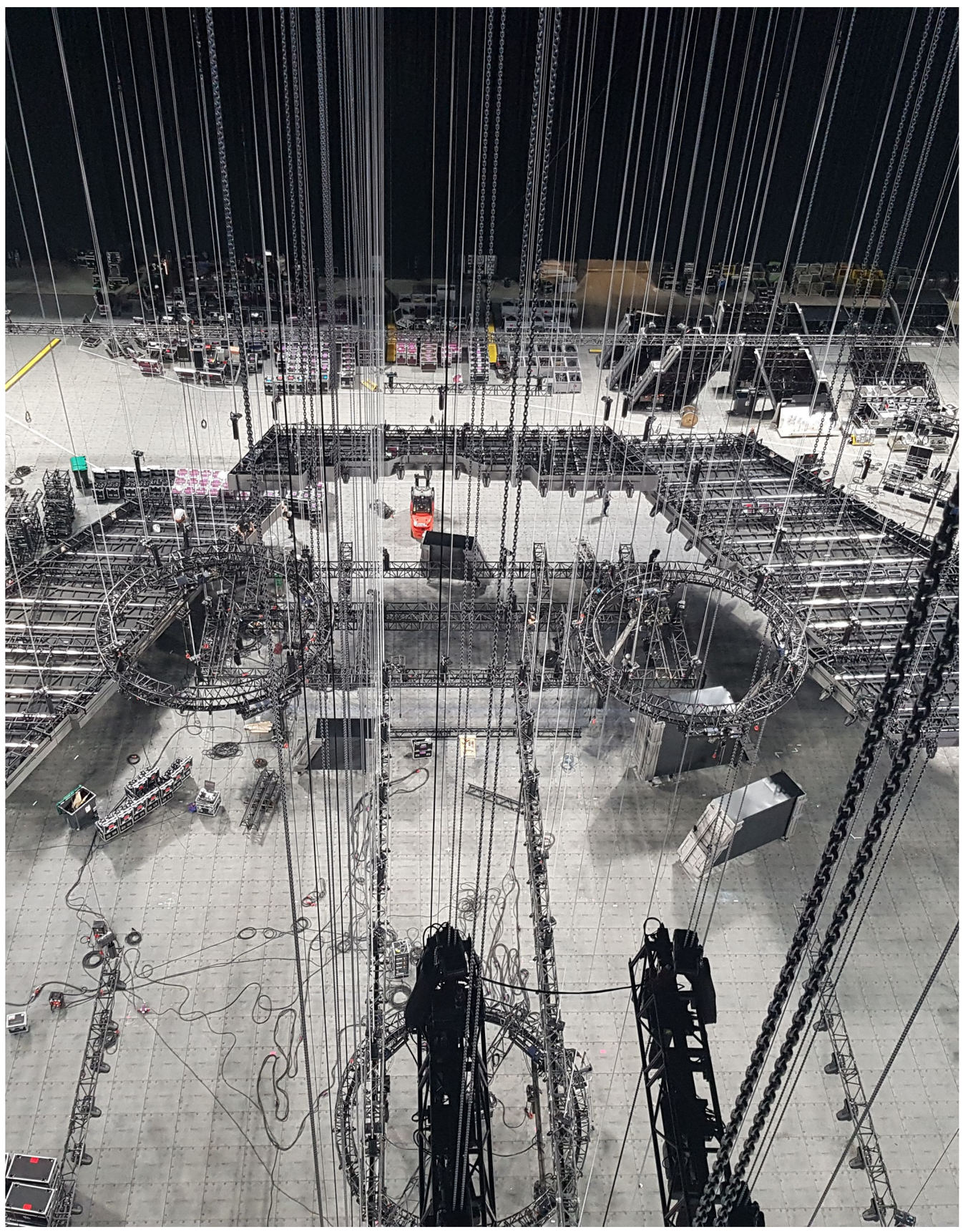
Koen Peeters was approached by the artist's production manager Didier Gaume and technical co-ordinator Pascal Meley, following a very successful collaboration for the artist's 2013's 'Timeless' tour. Creative director Emanuelle Favre teamed up with lighting designer Dimitri Vassiliu to create a great live experience, packed with WOW moments and spectacular effects for Mylène Farmer's many fans.

A total of 63 zero-speed chain hoists, 72 meters of WI-Track, 16 active track runners and 4 ground track runners formed the active motion elements for this extensive automation set-up.

Due to the sheer size of the show rig and the venue's height, nearly 7 kilometers of power and data cabling were necessary.

The six-week on-site period included a one week build and two weeks of rehearsals

Let's take a closer look at all the elements…



Credit: Koen's Iphone

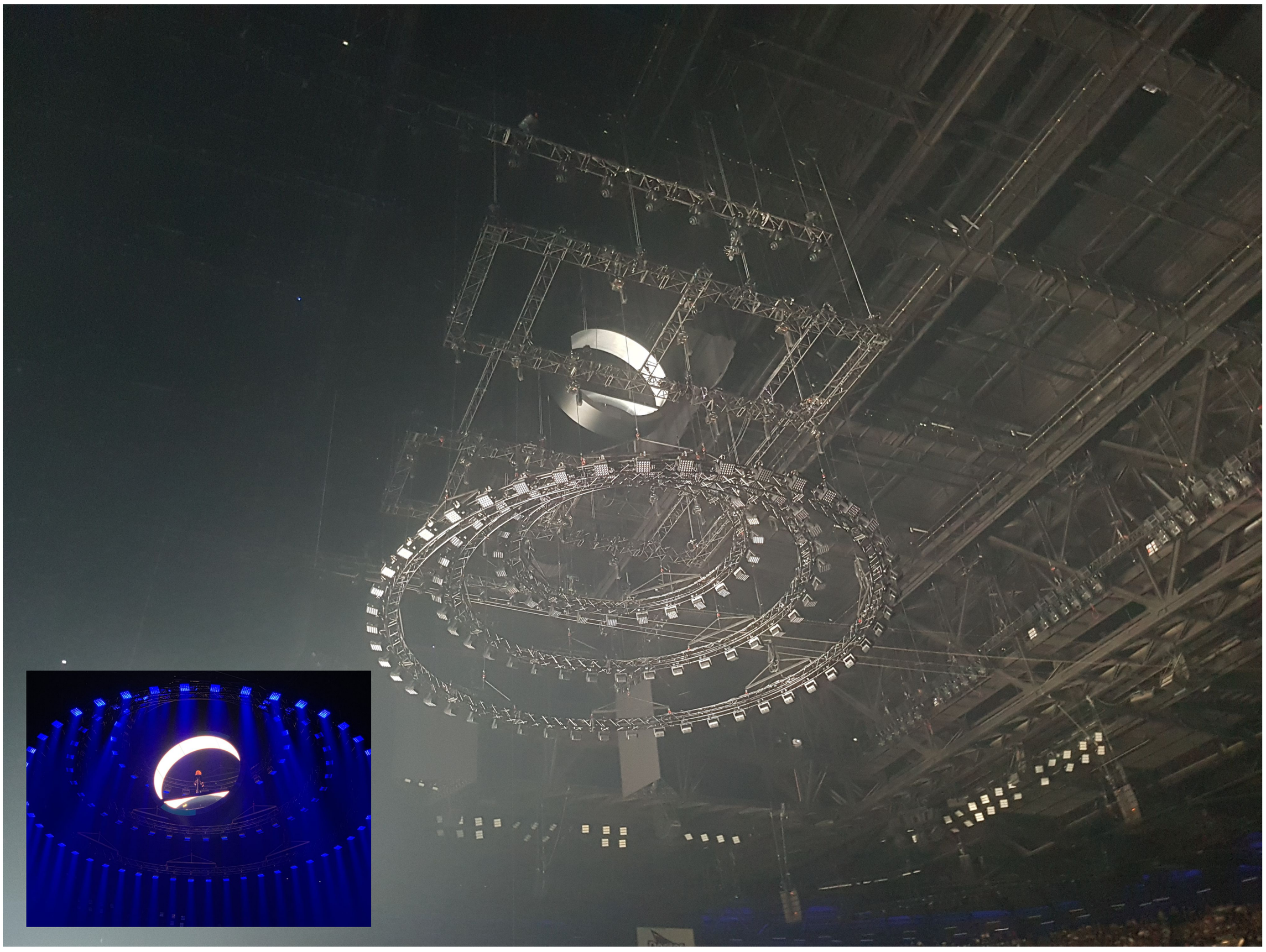
L'Anneau (The Ring)

Making a spectacular entrance, Farmer was lowered on a 5-meter diameter 1 meter wide scenic ring which was constructed by set builders Artefact. WI had the task of flying it in from the roof, a travel distance of around 38 meters, turning as it descended.

To bring Mylène from the venue's catwalk to the Ring, a 6-meter by 2-meter platform was tracked over a 6 meter distance, lowering 3-meters and aligned with the Ring's integrated performer platform.

This move had to be completed during a hidden pre-set window just before the show started.

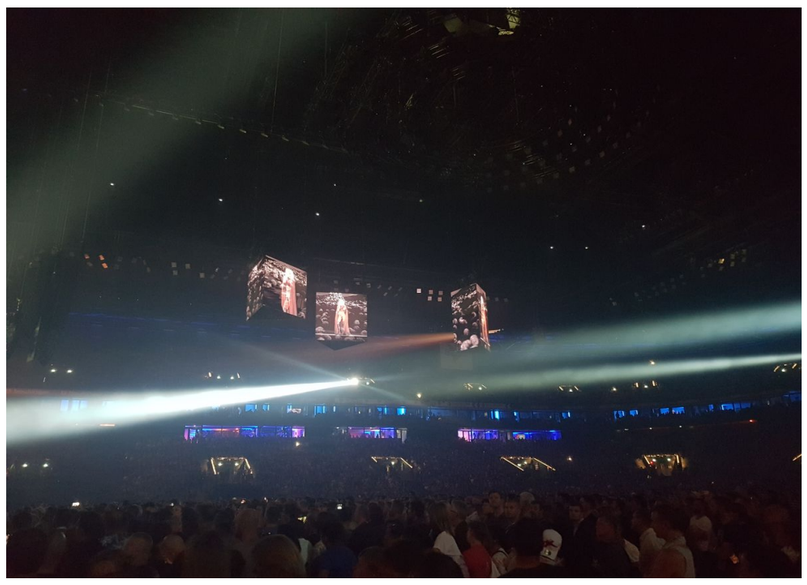
As the Ring landed on the retractable runway at the front of the stage, the artist stepped out of L'Anneau and launched into the first song of the performance.
The Ring was automated and rotated utilising four half ton WI zero-speed hoists for the vertical motion and a 5-meter diameter circular track served the rotational motion.



Credit: Koen's Iphone

Les Triangles (Triangular video objects)

A total of seven triangular video objects in various shapes and sizes were required to fly above the audience, so WI used a total of 21 of their 800kg zero-speed hoists to safely automate these.

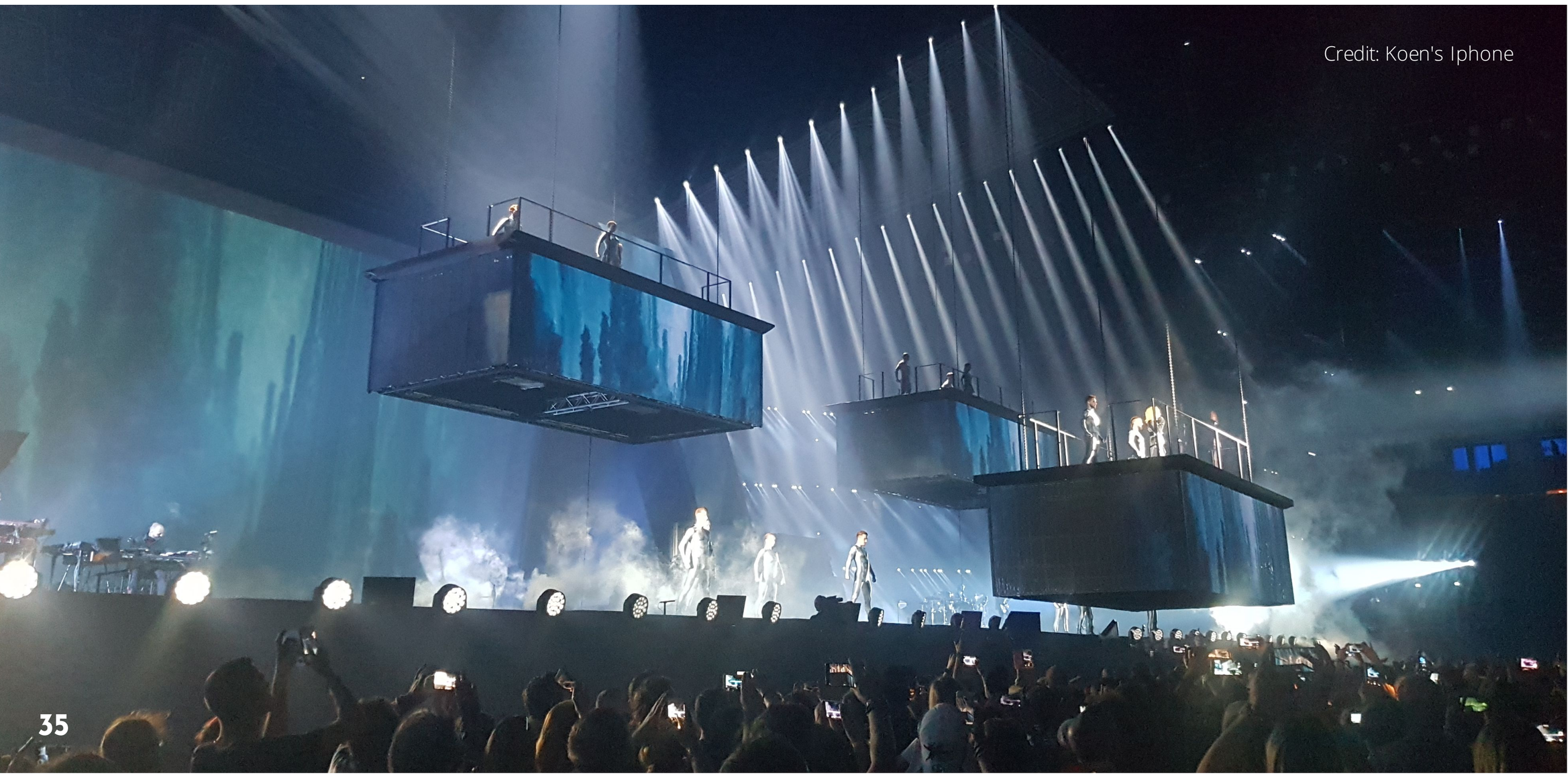


Les Blocs (Video Blocks)

The third motion item involved three large 'blocks' of video flown upstage, each a 7 meters wide by 3.5 meters deep platform with a 2 meter-deep 'skirt' of LED screen hanging below, complete with WI's custom automated handrail system. All these rotated and had to be capable of accommodating up to 12 dancers simultaneously. The centre one could additionally fly – via 30 meters of WI-Track - in and out above the audience.

The two stage left and right blocks lifted up 6-meters from the venue floor (where they were sat concealed in the set), to above stage level and then remained in that 'show' position, while the centre one flew up and down into several different positions.

The video platforms were lifted by four 1250 Kg BGV-C1 chain hoists and rotated along a Ø7m50 WI-Track, using 4 active track wagons. These three pieces brought a high-impact change of architecture across the stage as the performance entered different sections.



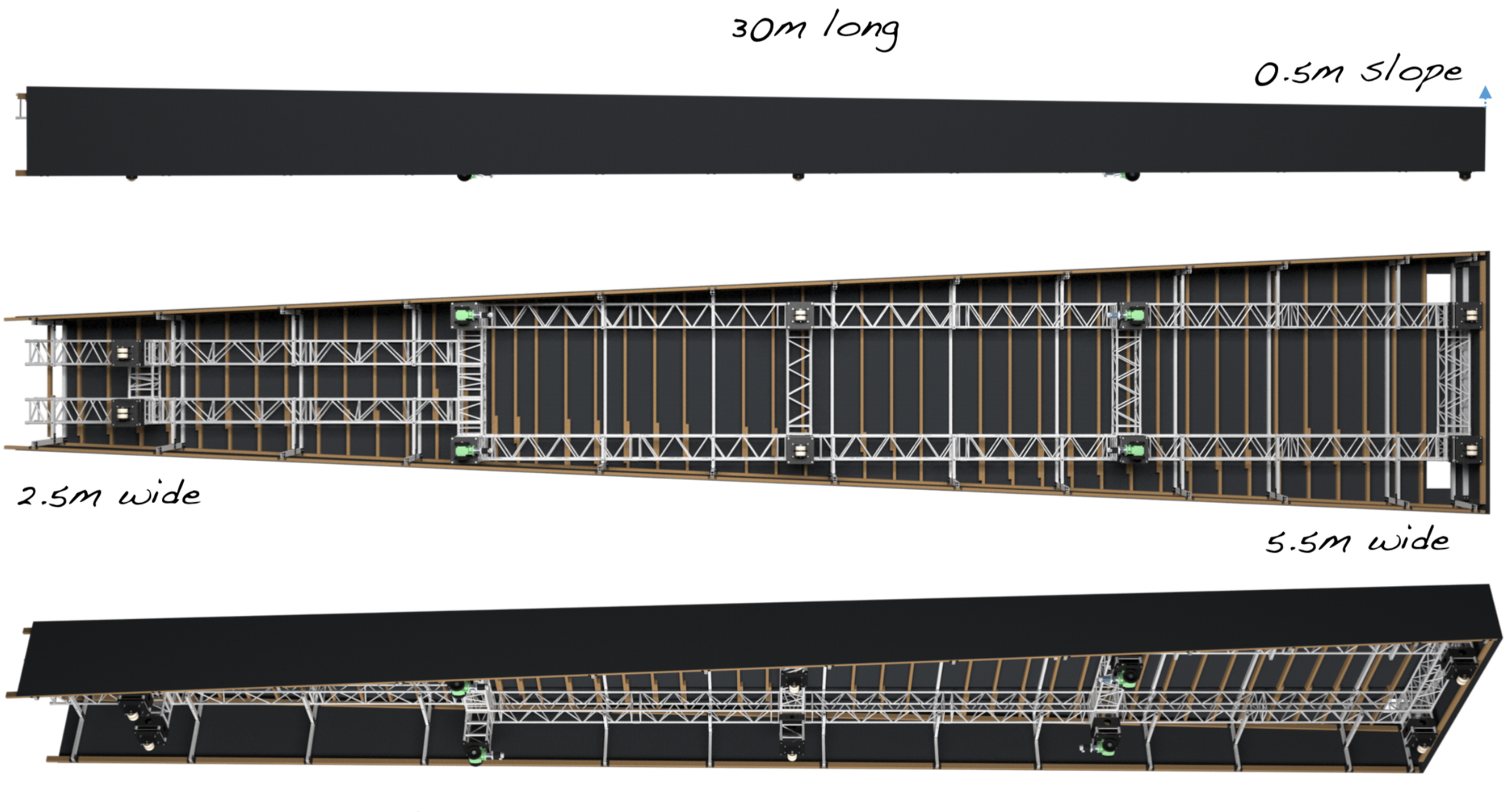
Les Cercles (Circular lighting trusses)

WI provided the motors, rigging and control to fly three large concentric circular lighting trusses measuring 8, 12 and 16 meters diameters respectively … each loaded with multiple luminaires.

The circles both tilted and moved up and down and were an integral part of Dimitry Vassiliu's lighting design.

The central one was automated with four half-ton motors, with six for the middle one and eight on the largest.

Le Proscenium (The Runway)



The runway retracted all the way back under the stage via a driven wheel system using 24 industrial strength wheels and WI's zero speed motion drive system. You are looking at a 6 tons construction.

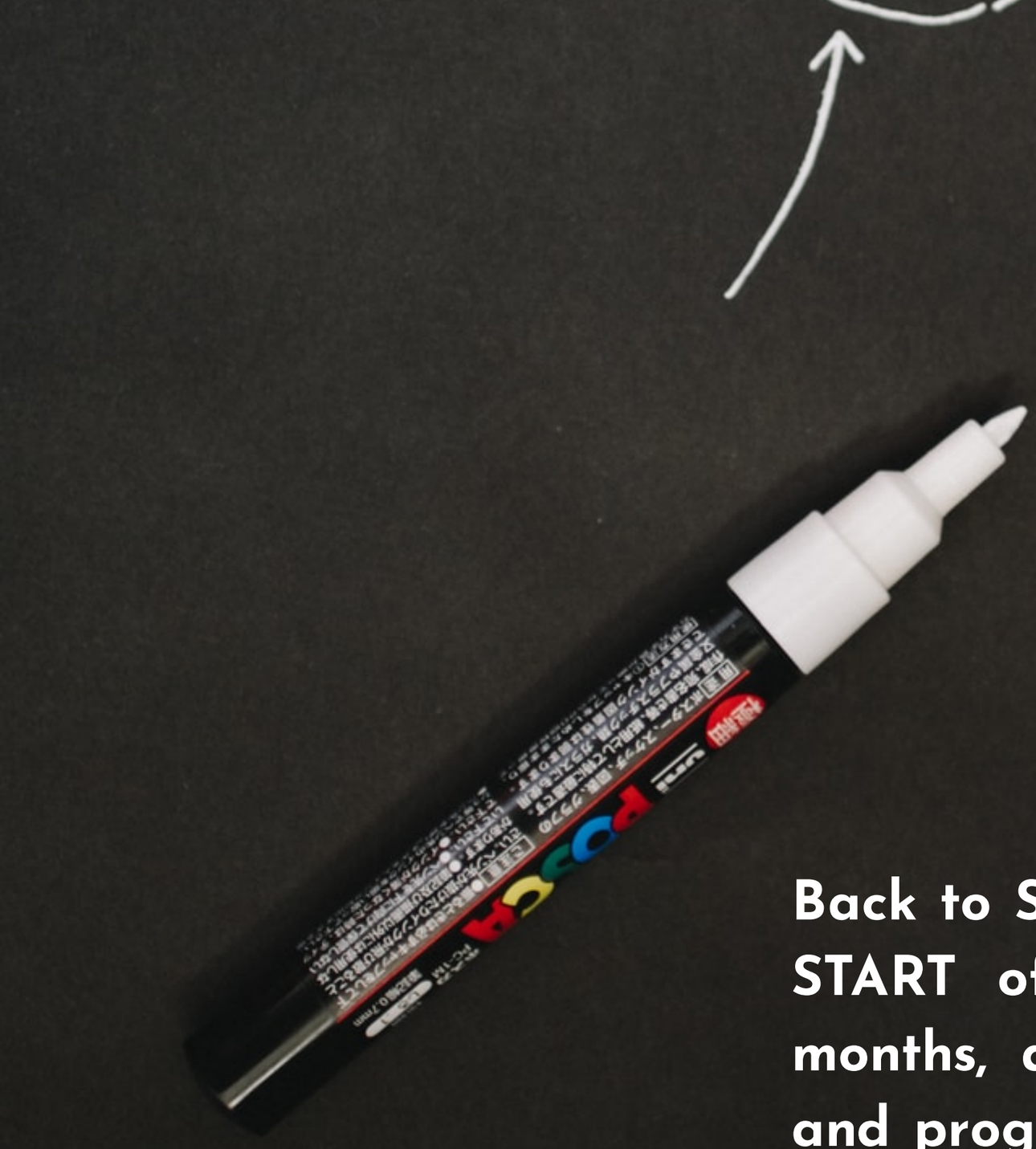
Worked hard on this show and helped turn it into an absolute top notch performance:

Production Manager: Didier Gaume |Technical coordination: George "Pascal" Meley | Lighting Designer: Dimitry Vassiliu | Creative director Emanuelle Favre |
Alabama Media: video and lights | FL Structures: motion hoists for pyramid objects & trussing | Artefact: scenic objects; "l'anneau", "le plafond", "les objets piramide", floor tracking system for pyramid objects | Stageco Belgium: scaffolding floor
The awesome production crew for WI: Tim, Xander, Miro, PieterJan & Jacky and to all involved in our warehouse! #VousEtesFantastique!

WIcademy

Innovative Motion Education

The need for certification



Back to School with the official naming and START of the WIcademy. Over the past months, a group of operators, technicians and programmers have been trained up on the new WImotion family and added MCA software proficiency to their skill set.
They have earned their WI-Desk-Keys!

WImotion Graduates

About Lesly...

Spotted on the Mylène Farmer crew, but also on many other projects such as Radio DJ in Milan, De Foute Party in 's Hertogenbosch, The Battle in the Studio100 Pop-Up Theatre and the musical spectacle 40-45. He was an integral part of the Celine fashion show crew and will travel to Abu Dhabi for WI later on this year.

About Xander...

He started through Flex Solution and joined the WI team full time last year. He was part of the Mylene Farmer tour in May & June 2019. But he also did smaller projects such as the Hype-O-Dream in Waregem and Scrooge in Antwerpen. He was also part of the WIcreations team for 40-45. MCA certified!

About Sam...

Freelancing for more than 6 years for WIcreations already and jack of all trades. Sam was a WImotion operator at Beyonce and Jay-Z's On The Run II tour. His first big show with WI was the musical spectacle 14-18 with the big moving grandstand... and who knows in which part of the world he's doing his thing right now.

About Ross...

Rigger, automation technician and motion control operator since 2010... Ross has worked extensively in television, film and the touring market on a wide variety of projects flying both people and scenic pieces. Ross first tested our MCA console on the 'Summer Of Super Heroes' at Disneyland Paris.

About Drika...

Graduated in 2005 in Audio-visual Communications, Drika immediately picked up her passion for lighting and video and worked on several large shows and theatre in production and as a lighting designer/programmer/operator/technician and rigger. Then she got involved in motion which gave her career a strong gear shift. Drika is one of our first WIcademy graduate at Level 3. You might have seen her this summer on tour with Rammstein, operating the WI-Desk and all automation involved.

WIcademy

Become a Level 1, 2 or 3 Certified WImotion Technician, Programmer or Operator

Send us all we need to know about you...
wicademy@wimotion.com

About Tim...

Tim is a WImotion Graduate through Crew Solutions and is currently the fixed operator for 40-45 in Puurs. He was one of the Mylène Farmer crew, and has done fashion shows for Kenzo and worked on Vrienden van Amstel. Tim has excellent knowledge of MCA as well as other competitive motion control software packages...

About Pieter-Jan...

He was one of the first technicians to go to Disneyland Paris where the very first WI-Desk was installed last year. MCA certified, he formed a team together with Xander, Tim and Lesly on the Mylène Farmer tour. He was also part of the motion crew on Shimizu last year.

Op Ed by Louise Stickland

What comes first – the ideas or the technology?

The answer is both … in the wonderful world of entertainment technology! The synergeous interdependence of ambitious design and smart technology is a major force in producing amazing shows and spectacles for the enjoyment of diverse audiences.

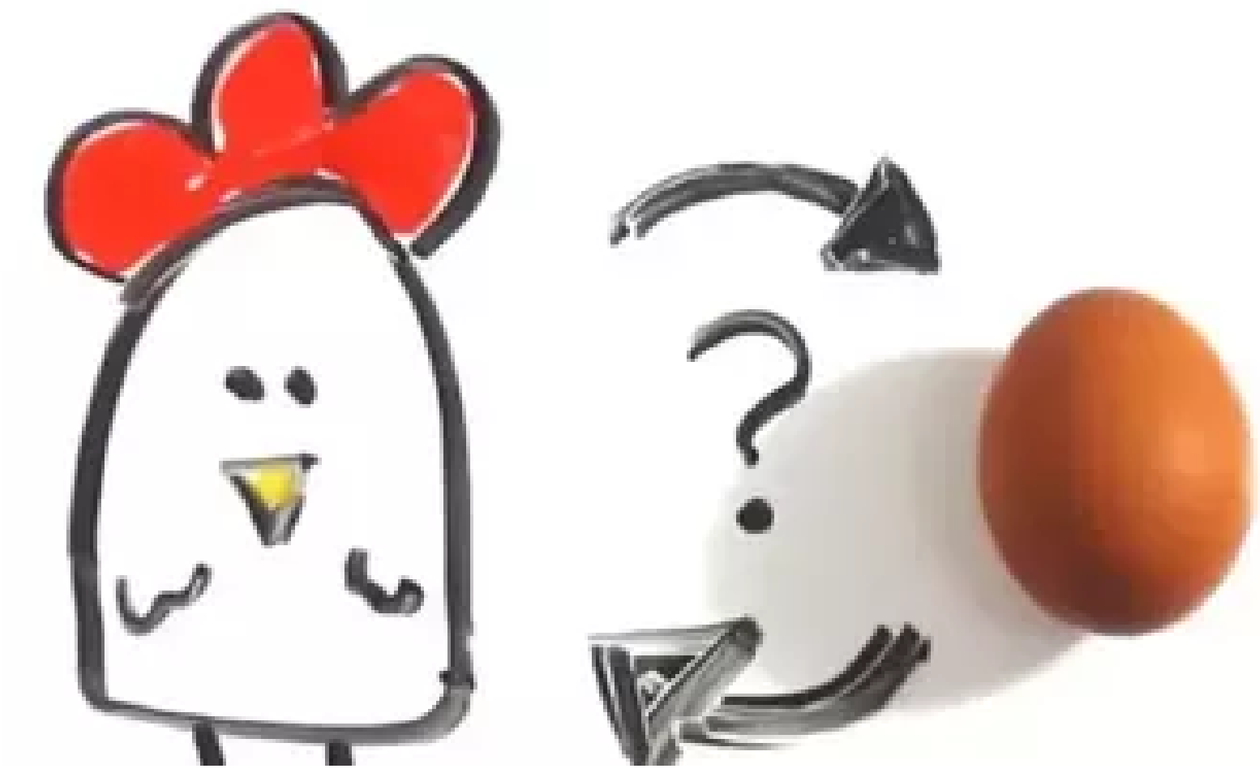
As the public / show goers become ever more demanding in their expectations, this impacts directly on all involved in the production process, and quite rightly so!

Some aspects are wholly subjective, but overall there is an increased awareness and perception of what makes a 'great' show, what's entertaining, what looks and sounds good, etc … all of which is constantly challenging visual and show designers / directors to produce bigger, better or more impactful WOW factors!
In turn, the pressure is on for equipment designers, manufacturers and technical developers to bring kit

The need to be visually exciting and provocative – be it a banging EDM extravaganza, a high-profile brand activation or a stripped back minimal performance concept – is at the core of an incessant quest for sonic and optical highs and exhilaration.

As we know, bringing any technical element to a show is not necessarily about being 'biggest' or 'best', it's about ingenuity, drama, imagination and the ability to forge that emotional rapport with an audience, communicate and take them on a journey.

And that's why it's a great moment for anyone involved in automation and motion control. After traditional disciplines like lighting, sound and even video have now become de rigueur for most productions, motion control and the ability to move objects in a 3D space and co-ordinate physical with virtual object movement is still relatively new and an area ripe for exploration.



Once the elitist preserve of big budgets, the slow but steady expansion of manufacturers and available kit for use in this specialist area has brought numerous options and made it more available to all levels of production.

However, only since the training and acquisition of skills and knowledge of how motion control kit can be used objectively and appropriately has kept pace with the products, has it started becoming more interesting!
From the biggest stadium to the tiniest and most awkward site-specific venue, using the biggest and heaviest tools to the most accurate and finessed people flying kit, the desire and the means to move things and make magic happen is never far away!

Knowledge is power! Show and event creatives are pushing the genre to new levels with their understanding of what's achievable safely with automation and how the potential of changing complete performance architecture is such a powerful tool of expression.

This union between designers, programmers and manufacturers – the combination of concepts, products and the business of innovation – is the essential DNA of this dynamic discipline.

That's why the launch of a system like WImotion is so important.
The time is right for a new approach, and this comprehensive system is the result of several years of listening to creative and technical input on all levels and consulting with an array of safety experts.

Designed and engineered with practical experience in the solid mechanics and physics of movement engineering and applying that to the off-beat and radical world of entertainment.

WI-Academy is part of a bigger picture with the future in mind, intending to offer opportunities for education in using automation safely and creatively for what it's designed to do … to help unfold show and event stories and narratives.

This is more than a new set of equipment available for multiple and various projects, it's the start of a new joined-up way of thinking about automation.

Loo

Louise Stickland

CHEAT SHEET

In this section, you will find small tips and tricks! Things you might take for granted, or even not question. Our first Cheat Sheet is about SIL3 and the need for a Risk Analysis and we picked our mustard from the ever interesting collection of articles published by the safety experts at Blumano.

The Real SIL - Let's talk about the notion SIL3 and how it should help you in your business. Wiki says: Safety integrity level (SIL) is defined as a relative level of risk-reduction provided by a safety function, or to specify a target level of risk reduction. In simple terms, SIL is a measurement of performance required for a safety instrumented function (SIF). It indicates the chance of failure, based on a probability calculation. This might lead you to feel all safe and sound when having assembled a series of devices all claimed to be SIL3 by their manufacturer.
Well, that might not be true... and lead you to a false feeling of security... Let's dig a little deeper.

SIL3 is a safety function, it's not a product quality.
It was mistaken from safety PLC manufacturers that rated devices, inputs and outputs as SIL3. It got extrapolated to rate high-end machinery, like hoists for instance...

So what is going on in a motion-device-manufacturer's mind: building redundancy, like 2 encoders, in a machine doesn't necessarily mean it achieves a SIL3 safety function. It is only a part of the things to take into consideration... SIL talks about the failure of the elements that interact with a safety function, not the quantity or their redundancy. So 'adding multiple elements to a machine', does not mean 'bringing it a higher SIL level'. It might even reduce it to SIL2 depending on the way they are implemented. Again, an example: 2 encoders in 1 hoist might be built in such a way, that their SIL level is lower than expected.

So, what a manufacturer should do, is create a matrix that sums up all the elements of his device and their SIL rating, then add all devices of the configuration. The outcome of this matrix is the true result of the probability of failure. Take for instance the configurations on page 6-9 and the maximum total number of devices have not been chosen by chance. They have passed this SIL calculation matrix.

So rather than stating: 'I want all my hoists to be SIL3', a much more correct statement would be: the implementation of the E-stop on my new hoist is SIL3. Curious to learn more about the origin of this SIL rating? Let me enlighten you... it all starts with a making a Risk Analysis, this sounds like an expensive word, but in fact, you can make a Risk Analysis from the most simple daily operations, like calculating the risk of peeling potatoes. Let's do one together.

Consequences	Severity Se	Class CL					Frequency and duration Fr		Probability of hazardous event Pr		Avoidance Av	
		4	5-7	8-10	11-13	14-15						
Death, losing an eye or arm	4	SIL 2	SIL 2	SIL 2	SIL 3	SIL 3	≥ 1 hour	5	Very high	5		
Permanent : losing fingers	3		OM	SIL 1	SIL 2	SIL 3	< 1 hour - ≥ 1 day	5	Likely	4		
Reversible : medical attention	2			OM	SIL 1	SIL 2	< 1 day - ≥1 2 weeks	4	Possible	3	Impossible	5
Reversible : first aid	1				OM	SIL 1	< 1 2 weeks - ≥1 1 year	3	Rarely	2	Possible	3
							<1 1 year	2	Negligible	1	Probable	1

Peeling potatoes is an almost daily operation, so the frequency is high, but the duration (or exposure to the hazard) is only during a period of 15 minutes per day. The probability that you will cut your finger is likely and the avoidance is possible, if you would wear a chain mail glove as protection. The outcome of adding all of this up, results in a Reversible consequence, requiring medical attention in SIL1. Extrapolate this to an artist performing attached to a hoist, and you can see why the probability of this artist being exposed to an irreversible consequence, scores a high SIL3 probability rating.

From this SIL-rating, comes a extra security level that needs to be built into a device. Take that same hoist from the artist performing over an audience, and it will lead you to some parameters that will define the operations it will be able to move in. In other words: the Controller that directs the hoist will have a predefined SLS Safe Limited Speed, SLA Safe Limited Acceleration, SEL Safe Emergency Limits, SLP Safe Limited Position and SLM Safe Load Monitoring. These parameters will guarantee safety, but they will also give the flexibility you need for the specific motion act you have in mind.

#HopeThisHelps

When life gives you lemons...

Make lemonade!

If you are a technical production or show designer, we hope this technical magazine has given you inspiration and confidence... that the sky is the limit and you know that there's now a secure solution to make your ideas happen.

We've given you the lemons... it's up to you to make the lemonade.

If you are a lighting operator or you have already integrated motion into your shows, you might want to sign up for the WIcademy and become a certified WImotion operator.

We are assembling a database of WI-Certified automation crew, which will be made available for production and site managers, technical directors, etc.

Enough said, that's all for now folks... again our email address is publishing@wicreations.com, hoping to read your feedback, suggestions and questions.

Next edition will be all about the integration of our WI-Wagons in WImotion.

— The Editors—

Links & References

www.rammstein.com www.wonder.co.uk/ www.stageco.com www.ffp-fx.net www.blumano.com www.mylene.net www.posistage.net en.wikipedia.org/wiki/Safety_integrity_level

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