

THE MARKETERS' GUIDE TO PROJECTION MAPPING



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Front cover credits: Cover image shows projection for Wermland Opera, Karlstad, Sweden.
Produced by: Eyebrite Film and Visions. Tech: Adapt Events. Light: Light it.

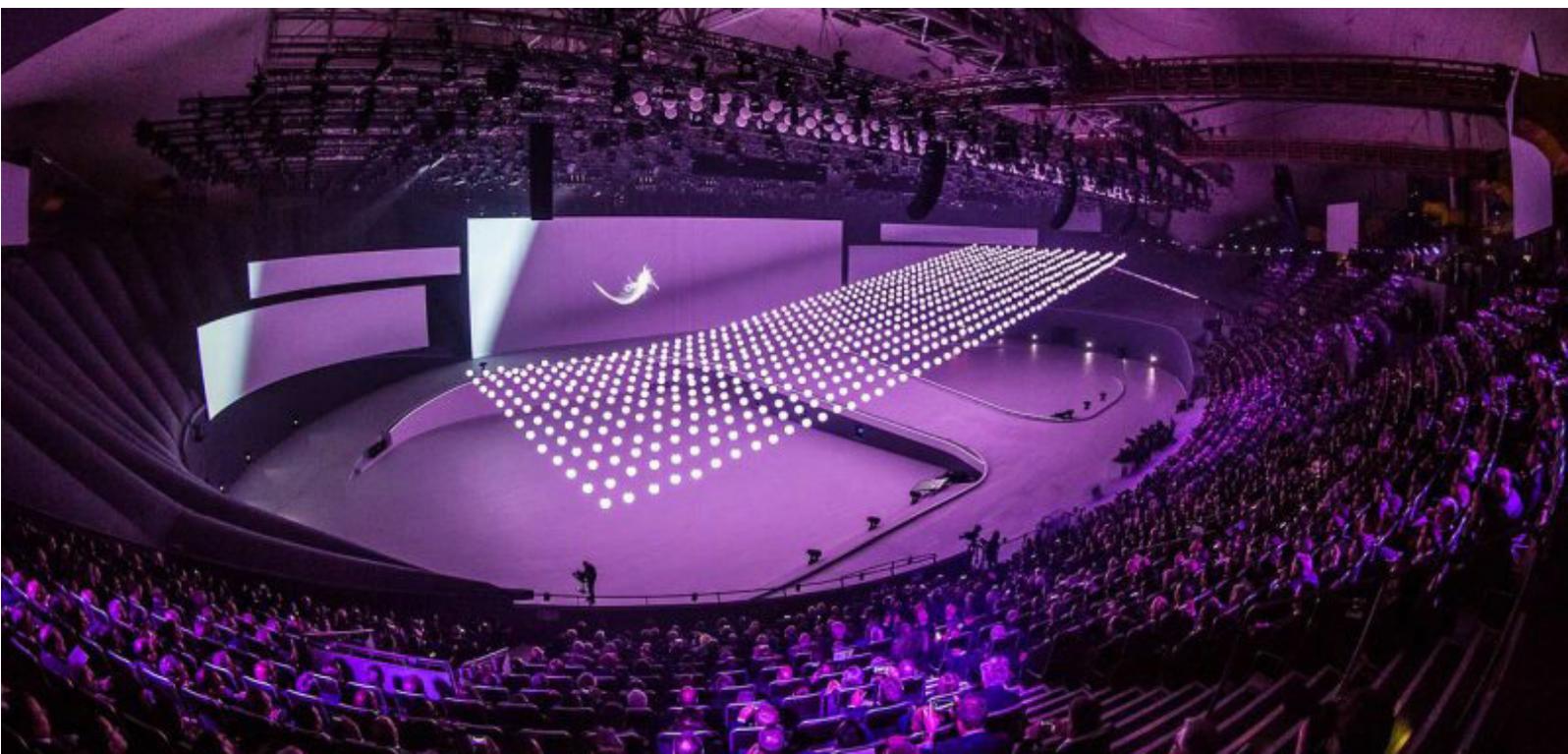




Photo: Tricolor India
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1. WHAT IS PROJECTION MAPPING?

Casting shadows and pretending your hands are dinosaurs or visitors from outer space represent projection mapping in its purest, most basic form: transforming a seemingly neutral surface into something entertaining with the help of light.

When we play now, it's on a bigger scale, with advanced technology and equipment, but our goal is the same: to entertain and impress an audience.

Entertainment in all its forms is an integral part of human culture, going back as far as we can verify our existence. The breathtaking qualities of light have been a source of delight since we first discovered the power and possibilities of the sun. We know that more than 2,000 years ago, people in China and Greece used pinhole cameras to project images of their surroundings. In 17th century Europe, candles and oil lamps were used as light sources for *lanterna magica*, magic lanterns which projected images painted on glass slides. The principle of projection mapping is not new.

One of the first known creative uses of projection mapping was (not surprisingly) by Disney in their 1969 Haunted Mansion ride at Disneyland. During the ride, visitors could see five singing busts. The effect was created by filming head shots of the singers using 16mm film and then projecting them on to the busts to make them appear animated.

The next documented projection mapping happening was by artist Michael Naimark. In 1980, he filmed people interacting with objects in a room. After painting everything

white, he projected the film back into the room to create the illusion of people interacting with the objects. [You can read Michael Naimark's own text about the project here.](#)

The techniques continued to develop over the years, but we have to move into the era of brighter, digital projectors before projection mapping as a concept really made its way into the commercial realm.

This form of entertainment has steadily progressed, and by adding technology and modern equipment into the equation, we've reached new heights. What separates projection mapping from any other video projection you have seen, is the fact that we project onto 3D objects, not just the traditional flat canvas. That means any object can become a display for video projection and be transformed into pretty much whatever you want. This affects the audience's experience and provides a unique opportunity to create a spectacular multimedia show. No matter what message or experience you want to provide, projection mapping offers endless opportunities to dazzle and leave a lasting impression on any given audience.

"Projection mapping can create illusions by turning seemingly ordinary spaces into a visual spectacular. Done right, it almost looks like magic."

- Lalindra Amarasekara, Managing Director Cyber Illusions (Pvt) Ltd.



Photo: Dangers Inc



Photo: Destination NSW



2. WHY IS PROJECTION MAPPING USED IN EVENTS AND MARKETING?

Projection mapping can be a simple indoor stage effect or larger-than-life visuals on entire arenas, landmark buildings or other architectural landscapes. Here are some of the benefits of projection mapping in marketing events:

- Brand building – it can generate a lot of publicity
- Engagement – mapping attracts attention and adds the wow factor
- Memorable – it is a perfect feature to ensure your event is remembered
- Reach – mapping is perfect for social media sharing, with great potential for going viral
- ROI – The return on investment in terms of publicity is important – people like to talk, and write about this kind of event

Piotr Majewski, Chief Creative Officer of production house MOOV, explains why projection mapping is such a powerful tool for marketing purposes:

“From my point of view, marketing is all about storytelling, and this is what connects the brand marketing with the projection mapping.”

Projection mapping is a storytelling tool used around the world at all kind of events. Trade fairs, parties, conferences, etc. Mapping causes that kind of magic to come to life, engaging audiences and leaving them speechless. Projection mapping grabs attention by showing huge and powerful visuals that are very engaging. Brands that use projection mapping tend to have longer audience engagement and wider social reach.

Projection mapping brings high-quality and high-technology to the event or product which can deliver a serious emotional impact to the viewer or user.

It all comes down to the fact that thanks to the mapping projection you can have a unique, visualized dialogue with the consumer, telling him in an unforgettable way a story that will stay with him for a long time. The brand will stay with him for longer than after watching regular commercials on TV.”

Projection mapping can add that special twist that makes your product, brand or company stand out.



Photo: MOOV
Click to watch video

3. PROJECTION MAPPING IN MARKETING & EVENTS



There are many obvious advantages to projection mapping. When you view it as a marketing tool and compare it to more traditional marketing methods, its value and impact becomes apparent.

As consumers become more educated and tech-savvy, leaving a lasting impression is proving harder and harder. Creativity and good ideas can take you far, but delivering spectacular experiences that really make your name, brand or product stand out from the crowd, demands more. Execution is key, and with projection mapping you've got a tool with endless opportunities to present your message.

Years ago, video mapping featured in guerrilla marketing campaigns, including EDM artists. Now, projection mapping has really hit large volumes, as evidenced by the number of major brands that use it. Big brands like Samsung, Nokia, HBO and BMW have all deployed projection mapping technology for product launches and brand-building.

Disney has continued to be a front-runner, experimenting with the technology and installing it in a number of their theme park experiences, such as Disney Dreams!, Celebrate the Magic,

Once Upon a Time, Disneyland Forever and Sunset Seasons Greetings at Disney's Hollywood Studios. Take a peek at Wikipedia for a more comprehensive list.

A recent example is Art on ice. The brainchild of a figure skater and a businessman, the Swiss touring show features a unique mix of live music by well-known artists and performances by the figure-skating elite, choreographed with ice dance, acrobatics, lighting and breathtaking visuals – with projection mapping above, around and on the ice.

Projection mapping is a communication tool that lets you reach your audience in an innovative and refreshing way. This guide mainly showcases examples of largescale performances displayed on enormous canvases, but that's only part of the story when it comes to 3D projection mapping. The innate flexibility of the technology provides a generous base which means the technology can be customized to suit most creative ideas, messages and budgets.

The appeal of mapping projects lies in part in their use of compelling visuals to combine stories, information and calls to action into

profound experiences. We have already mentioned the practical and technical aspects of a projection mapping project, but don't forget the key ingredient: content. With a tool that provides such a smorgasbord of choices, the creative challenge may be how to keep yourself from going completely Hollywood. Of course, it would be great to have your CEO's face, or your most fantastic success story presented in movie theatre style, floating on the Manhattan skyline.

Let's be realistic, though: most companies don't operate with a budget in that league. Fortunately, there are many other ways you can utilize projection mapping in marketing.

In addition to the sales and advertising aspects, projection mapping is well suited as a tool for product testing. The technology is typically used in the process of choosing patterns, products, or to test shapes, forms and industrial design solutions. Being able to visualize the different options at a low cost and with the flexibility to test several different solutions, makes projection mapping the perfect tool for product and design testing.

For architects or occupations involved in city construction and urban planning, projection mapping can be an invaluable tool to visualize plans and development of defined areas or districts. This way of including the users opens up for a whole new approach to the concept of design in numerous fields.

Take a step back and start by asking the questions you normally post when you plan a marketing campaign or event. Keep your audience in mind like you always do, and ask yourself how you can utilize this tool to inspire your audience, convince them to seek out your products or services and perhaps look at your business in a different way.

"Thanks to this kind of 3D projection mapping, one can create virtually any illusion such as a moving or emerging object, dramatically increasing the effect of the storytelling and wow factor."

- Piotr Majewski, Chief Creative Officer



Photo: Videmus
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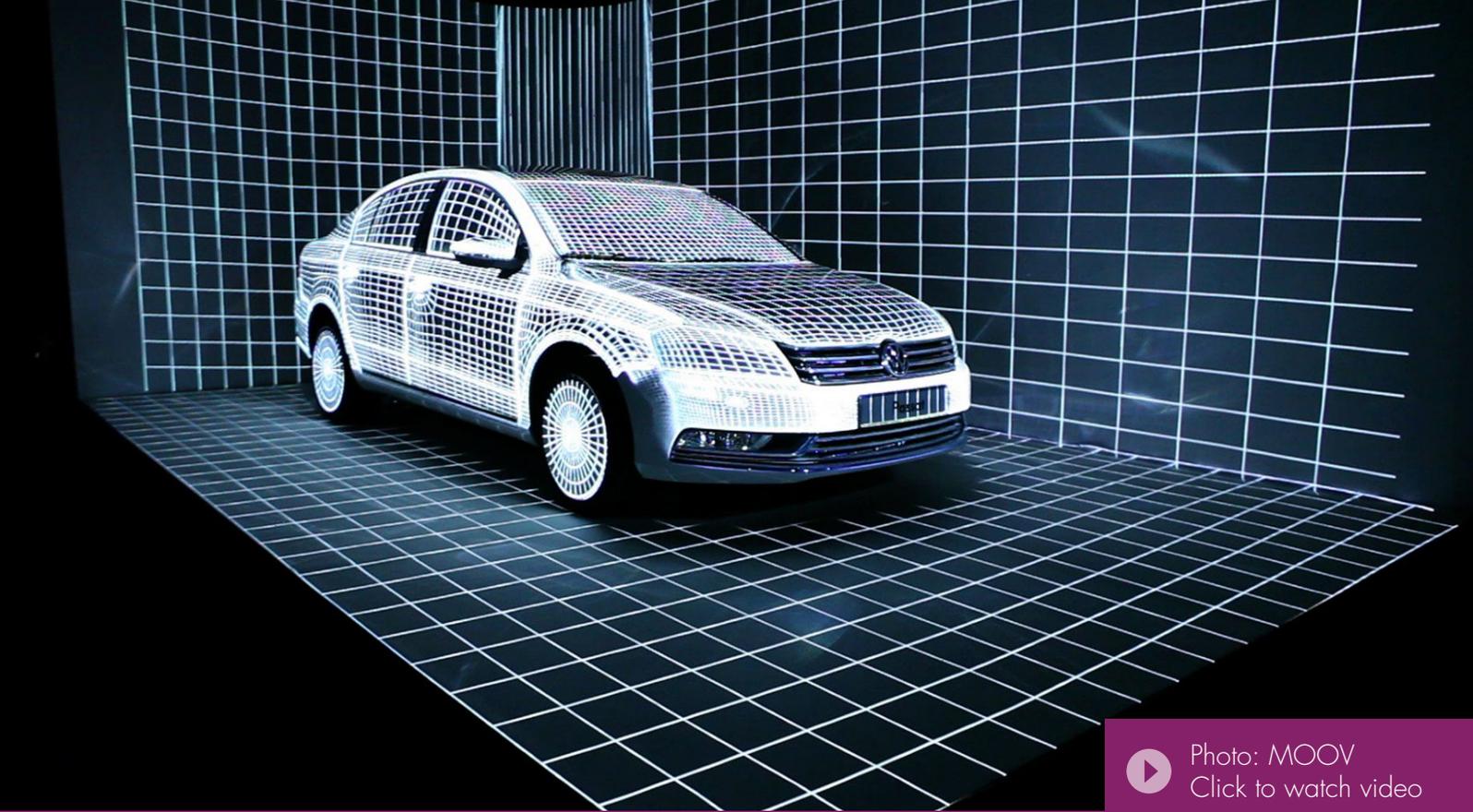


Photo: MOOV
Click to watch video

4. THE DIFFERENCE BETWEEN 2D AND 3D PROJECTION MAPPING

The main difference between 2D and 3D projection mapping is the projection surface. Two-dimensional mapping is typically on flat surfaces or curved ones where length and height are the measurables. Three-dimensional projection mapping works with objects and textured surfaces where depth or other spatial considerations need to be taken into account. Going from 2D to 3D means an enhanced experience for the viewer.

For most people, 3D is synonymous with stereoscopy, where you have a slight difference between the images fed to your left and right eyes, creating depth in the images. Glasses or other optical components are used to separate the views. Examples of this kind of 3D are the 3D movies that were very popular in cinemas a few years back, and some of the projected installations we see today.

But this is not what we mean when we talk about 3D projection mapping. Real 3D mapping involves taking an accurate digital model of an object, such as a car or a building, and bringing it in to your multi-display software, such as WATCHOUT by Dataton. The software identifies the 3D object, its surfaces and angles then ensures that visual content is assigned accordingly.

Most other projection mapping is done by simply masking out the areas where you are not projecting or where you do not want light to shine (on buildings, typically this can be the windows, to avoid reflections).

The type of projection surface also affects the content requirements. In 2D mapping, the visual material you feed into the media player is flat.

A 3D setting naturally calls for content and software that support 3D. In many cases, you also need more projectors when projecting on to a 3D surface, to ensure that the animation hits the object perfectly. The more advanced the projections, the more complex the projection mapping project...

When projecting onto a 3D surface, its variety in contour, structure and behavior naturally adds an extra challenge as you typically project on to an object with multiple angles – a surface that demands a different approach than the more straightforward 2D.

Well-executed 3D projection mapping allows for more complex, multifaceted designs that will have a great impact on the audience.

When Volkswagen introduced the Passat car in Poland, they employed 3D projection mapping very effectively. The mission was to build a show that was transportable, reproducible and would really capture the imagination of the audience. In this case, the creative team used a 3D model of the car and mapped the content with WATCHOUT multi-display software by Dataton. [You can see the example here.](#)

“In the hands of a good producer, the versatility of projection mapping is endless. It is not just a cool trick, but an instrument that can deliver an idea in a way that’s never been seen before.”

- Lalindra Amarasekara, Managing Director, Cyber Illusions (Pvt) Ltd.



Photo: MOOV

Photo: Art on Ice





 Photo: Dataton
Click to watch video

5. PROJECTION MAPPING ON MOVING OBJECTS

Projecting onto moving objects is often referred to as “real-time tracking”. You track the object with the light design, follow the object’s movements and make use of the structure and contours that the object naturally offers. You can also utilize the object’s environment, projecting onto its surroundings. If you track a person walking on a road, you could create ripple effects around each footstep, make dust clouds appear behind him as he walks on, etc.

Tracking as a feature proves just how far technology has come. With the possibility to project content on to a moving object, you can turn a dancer, a horse, a car or whatever you wish, into a canvas in motion. To carry out such an advanced performance, you’ll be employing state-of-the-art algorithms, finely tuned to the object’s movements. If the 3D object is a person or an animal, the bar is raised even higher. Creating a seamless blend between the projection and the object presents another level of difficulty but when it’s done well, it’s all the more impressive.

When Dataton showed a new version of their award-winning multi-display software WATCHOUT at the ISE trade show, they used real-time tracking of a complex 3D projection mapping object as an eye-catcher on the booth. The result was a tremendous number of visitors, lots of social sharing and an award to top it off - rAVE Publications’ [2018 Best of ISE Award](#) for Best Concept Product in the prestigious overall winners’ category:

“The honors are awarded by the industry publication whose reporters tirelessly visit all 1296 exhibitors at the Integrated Systems Europe show before handpicking the winners. Dataton received the accolade for its eye-catching demonstration of real-time motion tracking integration.”

The use of projection mapping in such a creative way grabbed the attention of visitors and is a good example of how small-scale, yet complex, projection mapping can transform a trade show booth into a lead generator.

<https://vimeo.com/254761152>





Photo: Megavision Arts
Click to watch video

6. PRACTICAL REQUIREMENTS, COST AND PROJECT MANAGEMENT

Projection mapping adds value, but what about the practical aspects of the process? The requirements for carrying out a successful projection mapping project depend on the scale of the endeavor. If you are planning to use projection mapping as part of an event, there is a list of practical aspects to consider, ranging from legal requirements, audience size and distance, physical placement of projectors and media servers, light conditions and much more.

These elements are part of project management, which in most cases will be handled by an external event or staging company. Working with experienced, professional companies is one of the key factors to ensure your projection mapping event will be a success.

Designing and producing the content is of course one of the most important aspects of the event. If everything runs smoothly, it will be this content that will make the audience go "wow!".

Fortunately, there are companies that specialize in creating outstanding content, leaving you to focus on communicating your vision as clearly as possible. The more detailed your brief, the more likely it is that the collaboration with the projection mapping experts will be successful. Here are some points to consider before you engage external help:

- Timeline
- Budget
- Preferred venue/location
- Projection mapping object
- Ideas about content

If you're interested in more details around the practical aspects of planning and executing a projection mapping project, contact us so we can put you in touch with an event company, projection mapping specialists or rental/staging companies.



Photo: Dataton

7. COSTS

As with all marketing activity, quantifying the gain can be a challenge, especially in advance. Whether you are planning for a big event or a smaller marketing stunt, the impression it leaves on your audience will enter their overall perception of your company, image and brand. These things are hard to count in dollars and cents.

As this guide shows, there are numerous examples that underline the overall benefits of implementing projection mapping as part of an event or in a marketing plan. Here are some statements from enthusiastic users:

“Vivid Sydney is more than just a captivating light, music and ideas festival – it drives our economy, attracting hundreds of thousands of overnight visitors to our State.”

- Minister for Tourism and Major Events, Adam Marshall

“There is real evidence that projection mapping is far from a cost. Its ability to attract visitors can help create employment, fill hotel rooms, sell restaurant meals and increase retail sales, bringing economic benefit that can outweigh the investment in creating the event.”

- Panasonic Business

If you need further convincing, Business News Daily recently wrote about [how companies wow their customers](#) with projection mapping ads. As an example, Nestlé saw 41% increase in sales when they [used projection mapping in their interactive in-aisle showstopper](#) for their Quality Street brand.

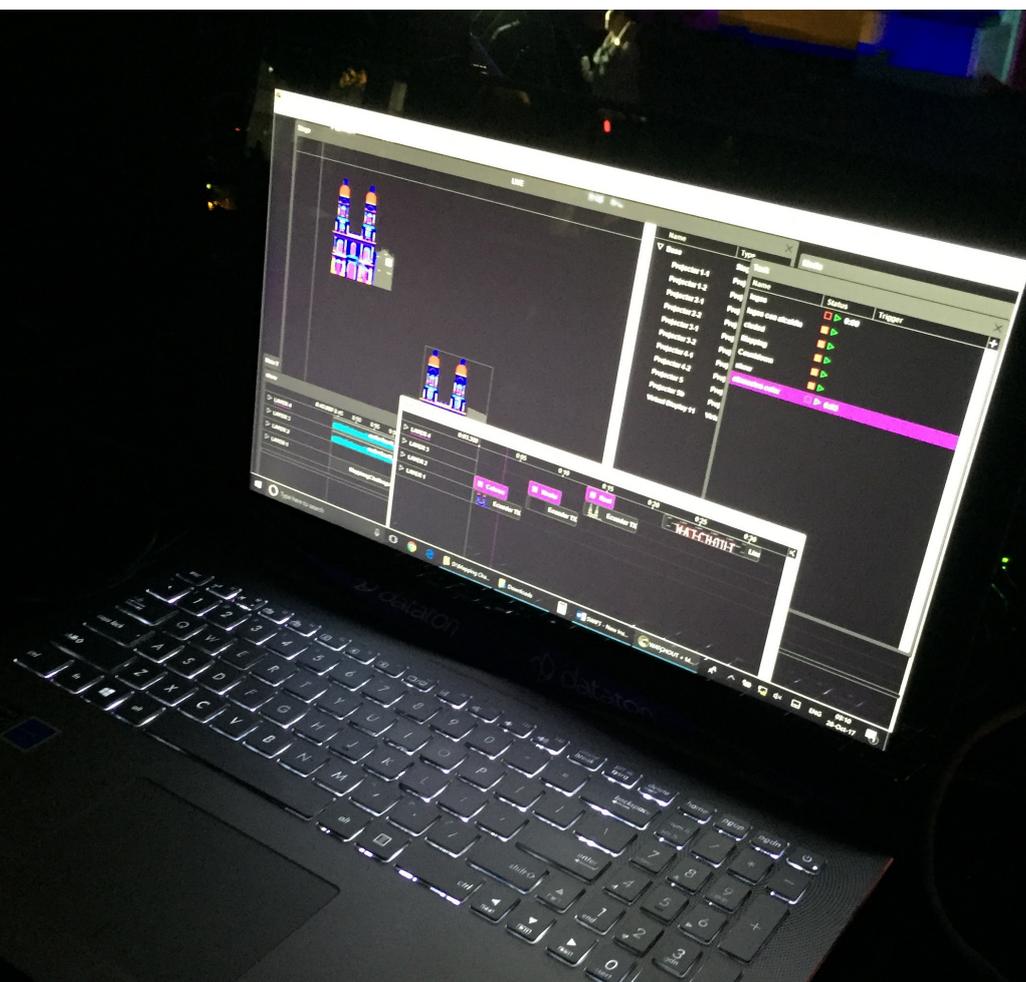




 Photo: Art on Ice
Click to watch video

8. TECHNICAL REQUIREMENTS

It doesn't take an engineer to understand that the splendor of projection mapping also requires advanced technology. It does, however, take skills, experience and the right equipment to execute a successful projection mapping, no matter the scale of the project.

Don't forget that you can hire all the components needed to execute your project, and bring in people who are skilled and certified in the multi-display software necessary to create and display your project.

Contact us if you want to do a projection mapping event. We'll help put you in touch with the right partners – all around the world.

For the more tech-savvy of our readers, we are working on a guide to projection mapping that digs deeper into projectors, brightness, media servers, files, tracking, speakers, audio cards, automated calibration systems and live video input options.

Subscribe to our blog and we'll let you know when the guide is available!



Photo: Ralph Larmann
Click to watch video



HBO Game of Thrones
Season 7 Premiere Party
Projection Design -
BARTKRESA studio
Photo by Gabor Ekecs
[Click to watch video](#)

9. EXAMPLES OF PROJECTION MAPPING IN MARKETING EVENTS

As you've read, projection mapping has been used in marketing since its inception. We've collected some examples of engaging projection mapping in marketing.

PRODUCT LAUNCH - GAME OF THRONES, HBO PARTY

One of the most significant TV series of all time, HBO's Game of Thrones, used projection mapping to launch Season 7. Game of Thrones has a broad fan base around the world and has won an impressive 38 Emmy Awards.

The Season 7 premiere party took place at the Walt Disney Concert Hall the night before the Emmy Award nominations 2017, and just four days before Season 7 hit TV-screens world-wide!

For the projection mapping at the premiere party, HBO, owned by Time Warner, called on Master Projection Designer Bart Kresa (BARTKRESA studio) and WorldStage, a leading company for event engineering.

A flying dragon engulfing the iconic facade in flames kicked off the evening. The faces of the Night King and the show's stars wandering on an icy tundra followed, before blooms from the Weirwood Tree took their place on the building.

The after-party was staged on the roof level of Classic Parking across the street with a perfect view of the Disney Concert Hall. WorldStage provided Kresa with Panasonic laser projectors and video engineering support for the eye-catching imagery.

This is a great example where the marketing department of a large corporation can create an event with extreme wow factor, but without having to have the specific skills in-house.

**[Source Bart Kresa, Panasonic](#)*

[Video: Game of Thrones 2017 Premiere](#)

"For the spectators, projection mapping makes for a great experience."

- Mr Alejandro Ordonez, Marketing and Communications Manager of Latin America at Epson America Inc

WHIMSY – SENSORY DINING

At Whimsy, you are not only treated to great food but to an entire sensory experience. The dishes are intricately paired with state-of-the-art 360° projection and projection mapping, designed to bring every delicious course to life. By creating a mesmerizing visual experience, some dinner occasions will be talked about for years.



HBO Game of Thrones
Season 7 Premiere Party
Projection Design -
BARTKRESA studio
Photo by Gabor Ekecs
[Click to watch video](#)

[Photo: Whimsy](#)
[Click to watch video](#)



Malaysia's first multi-sensory fine-dining experience serves up 360° wall projection and some mind-blowing table-mapping.

[Video: Multi-sensory dining in Malaysia](#)

ICE HOCKEY ARENA – STANLEY CUP PLAYOFFS 2018

For many, Stanley Cup is more than exciting as it is. But for the 2018 playoffs, projection mapping in the pre-game show maximized the drama and created a great atmosphere for the spectators. Canadian ice-projection specialists Dangers Inc handled projection design, setup and operation for a pre-game show that left the audience speechless. The content for the projection mapping was by Couleurs.tv.

[Video: Columbus Blue Jackets ice projections](#)

TRADESHOW – PRODUCT LAUNCH AND ATTENTION-GRABBER!

When Dataton, the market-leading manufacturer of media server software WATCHOUT, launched a new version at Integrated Systems Europe, they turned to the creative agency MOOV. The remit was to create a trade show booth that would make the perfect spectacular backdrop for the many new features of WATCHOUT 6.

As WATCHOUT is used to create projection mapping and the new version introduced several relevant features, the booth focused on a creative mix of projection mapping and LED walls. The highlight of the show was a standalone polar bear sculpture about two meters tall.

[Video: Dataton at ISE2016](#)

“Using projection mapping in a creative way like this was a brilliant idea and perfectly executed. The traction we got from the visuals and the polar bear was tremendous, and we got so much attention at this trade show that people at later trade shows asked about the bear. So, for a few trade shows in 2018 we decided to bring it back for a short, but still – very powerful – visit. The projection mapping really made us stand out from the rest of the booths.”

In this case, we worked with the creative company MOOV who both built the booth, created the spectacular content and made the projection mapping happen. Understanding that you as a marketing manager do not need to understand and know all the tech stuff is important and should not hold your creativity back!”

- David Aleksandersen
Marketing Manager, Dataton

“At a trade show, it is important to stand out among hundreds of other stands. You can make a beautiful stand, but by completing it with visually spectacular content in the form of projection mapping, we gain not only curiosity but foremost the attention of visitors. When your product and brand have their attention, they want to stay longer with it and get to know it better.”

- Piotr Majewski, Chief Creative Officer, MOOV



 Photo: Dangers Inc
Click to watch video

 Photo: MOOV
Click to watch video

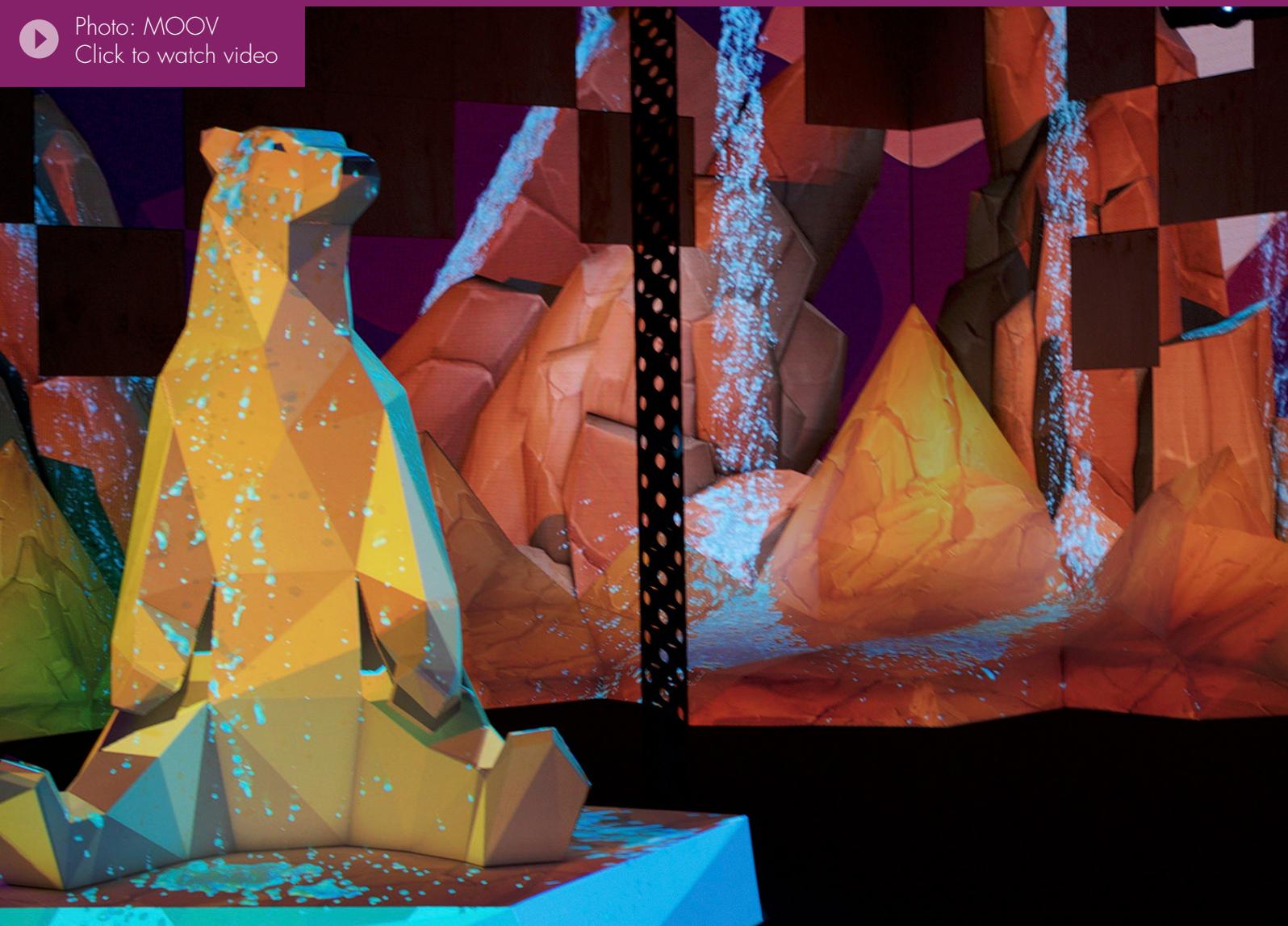




Photo: Dataton
Click to watch video

10. THE EXPERT'S ADVICE ON PROJECTION MAPPING

Mr Alejandro Ordonez, Marketing and Communications Manager of Latin America at Epson America Inc., has worked with projection mapping for several years and was the driving force behind Epson's extremely successful 2018 Mapping Challenge competition. When asked where the audience appeal lies and why projection mapping is such a powerful tool in marketing, he said:

“Projection mapping is popular because it is a mix of digital art with physical components blended together. This creates a different, sensory communal happening of massive proportions.

For the spectators (and us creators) this makes for a great experience. Combining visuals, sound, and natural elements of the chosen area – the Mappers create their own narrative that can also involve the participation of the audience.

As for marketing purposes, projection mapping is a powerful tool for massive scale advertising narratives. It provides an opportunity to change the story as many times as needed on the same area. By utilizing the natural or made-up structural elements available, the marketing team can tell the stories they find suitable to each audience.

Compared to a more traditional way of marketing, where you place an Out-Of-Home advertising structure that changes the landscape, projection mapping allows us to tell these stories without altering the existing structural formation of the area. Of course, there can be some practical challenges associated with this, but the rest is all about content and narrative creation that can be done repeatedly in the same structure.

Projection mapping is not restrained within built structures like you will experience on a TV screen, OOH billboard or canvas. As its digital aspects take form and change form of what it encompasses, it becomes like structural non-degrading graffiti.

We get to use already existing structures that may have cultural significance or interesting architectural commodities. A city is a work of art, with mapping we can alter it without doing any damage.”

- Mr Alejandro Ordonez
Marketing and Communications
Manager, Latin America at Epson
America, Inc.



California Science Center
Discovery Ball
Projection Design -
BARTKRESA studio
Photo by Nadine Froger
Photography
[Click to watch video](#)

11. SOME (MORE) MIND-BLOWING EXAMPLES OF PROJECTION MAPPING

MAPPING TRANSFORMS ICONIC SHUTTLE INTO KING TUT'S TOMB

The California Science Center is home to the space shuttle Endeavour, the NASA veteran of 25 missions. It was also the venue for a spectacular exhibition titled "King Tut: Treasures of the Golden Pharaoh." For the center's annual fundraising gala, [BARTKRESA studio](#) and tech partners [WorldStage](#) united both elements in a grandiose mapping which turned the iconic orbiter into King Tut's bejeweled sarcophagus. A Dataton WATCHOUT system was teamed with six Panasonic projectors for the event.

[Video: Projection mapping Endeavour, BARTKRESA studio on Vimeo](#)

[Read more about it](#)

CAPPADOCIA ZELVE VALLEY WELCOMES YOU!

"I wonder, what would it be like?" This was the question the creative team in Visio-Vox asked themselves. And the result? Nothing short of amazing. The epic history of the region is narrated through a 30-minute animated movie

on the natural topography, which is unique in the world. The projection mapping project has 12,000 square meters of visual area, the content was created by Fikirbaz Zenger and the technical projection mapping setup was delivered handled by creative companies Visio-Vox and Ouchhh.

[Video: Cappadocia - Video Mapping](#)

CORPORATE KICK-OFF OF EPIC PROPORTIONS: BMW - "THE NEXT 100 YEARS"

Media kinetic artist and show creator Andree Verleger staged "The Next 100 Years" for BMW Group in the Olympic Hall in Munich, setting both the bar for other corporate events as well as three world records. A total of 149 projectors made it to the Guinness World Record for "Highest Resolution Projected Image, using 149 projectors.

For such an impressive show, one record was not enough, it also boasted the world's largest media kinetic sphere sculpture and lightest projection.

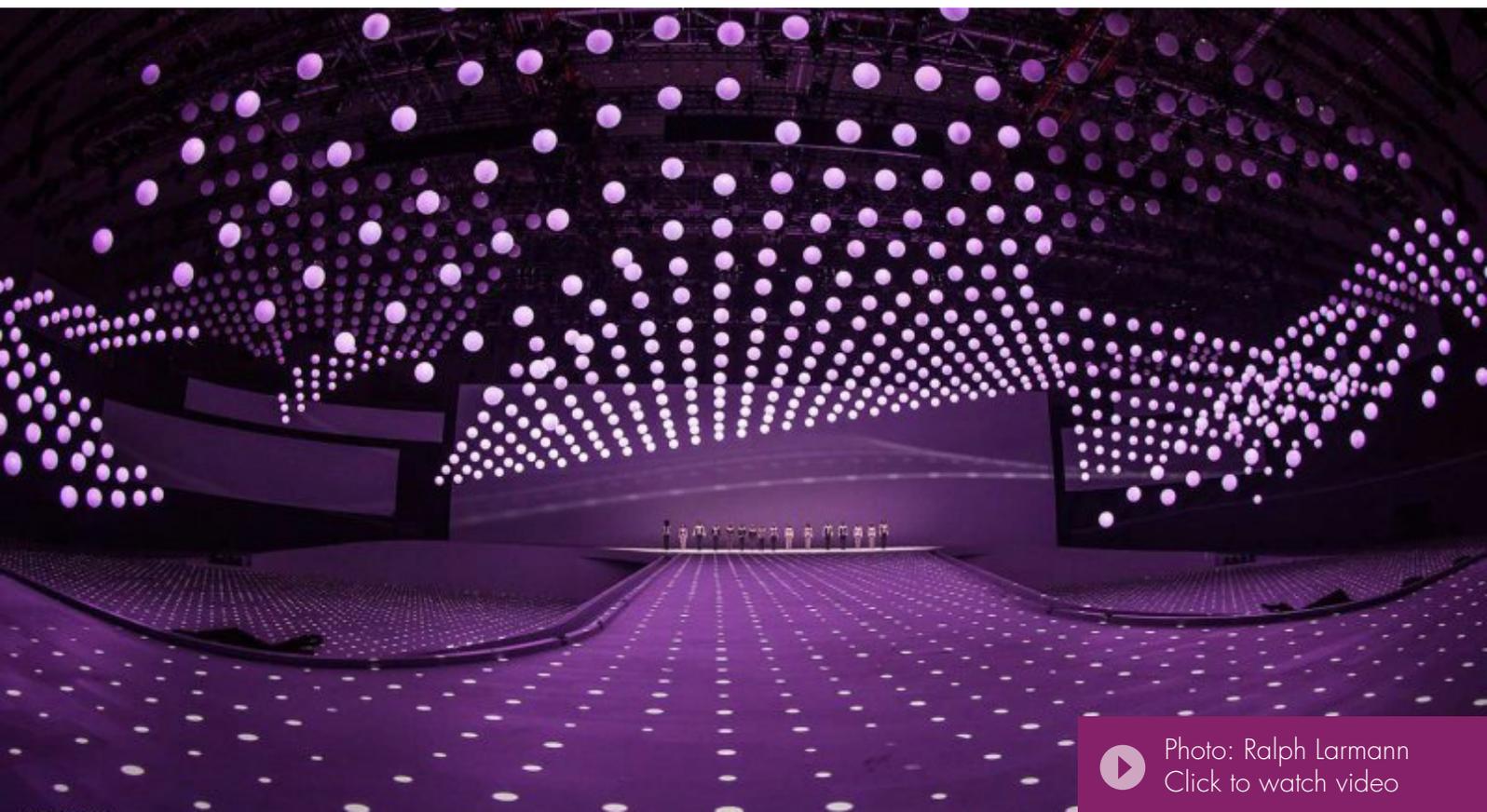


Photo: Ralph Larmann
Click to watch video

The entire stage was scenically turned into a 3D (and projection mapping) concept space, with the audience engaged in the development of a vision. With impressive visual effects and live performers, too, the celebration was an extraordinary visual experience for each and every guest.

Video & Dataton

<https://www.dataton.com/stories/bmw-event>

<https://vimeo.com/162537304>

FUTSAL FINAL (PORTUGAL)

Grandpa's Lab was commissioned to create the visuals for the official ceremony of the final of Taça Futsal 2018. This team of artists

collaborates to develop creative immersive environments, where they combine both digital and physical universes to create spectacular audiovisual narratives. They work with multi-sensory landscapes that can be experienced in large and small-scale events. The Taça Futsal final event was a magnificent happening in color and sound with the creative use of projection making the event really stand out.

More photos:

[https://www.facebook.com/pg/](https://www.facebook.com/pg/GrandpasLab/photos/?tab=album&album_id=1777120515714935)

[GrandpasLab/photos/?tab=album&album_id=1777120515714935](https://www.facebook.com/pg/GrandpasLab/photos/?tab=album&album_id=1777120515714935)

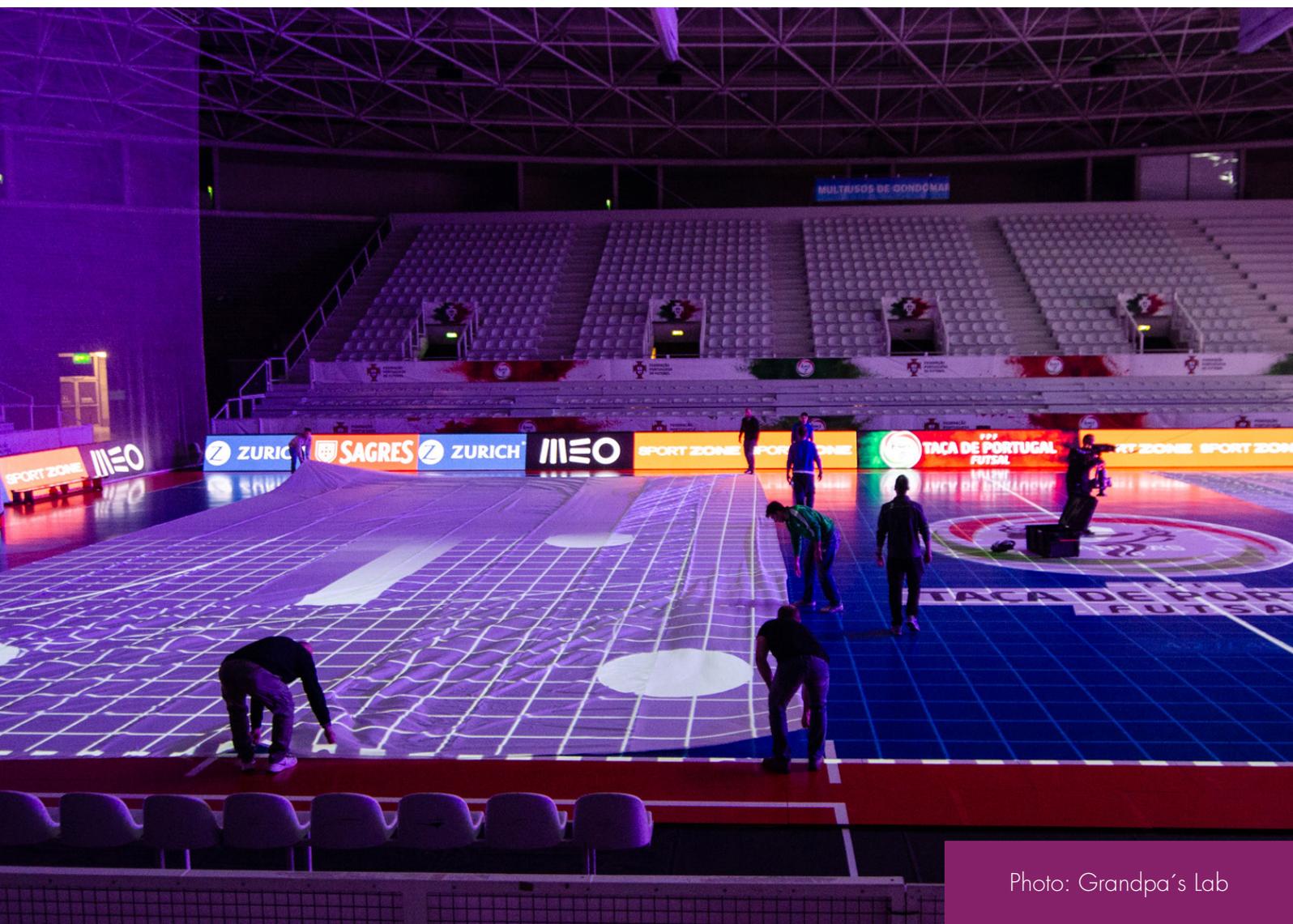




Photo: BMW 100 years
Click to watch video



Photo: Visio-Vox
Click to watch video





Photo: Destination NSW

12. SUMMARY

Is our attention span decreasing in proportion to the growing assortment and choices of entertainment on offer? With all the modern technology around us, and the constant noise from product and service providers trying to impress consumers, it takes more than ever before to create "wow factor".

Projection mapping is a marketing tool abound with possibilities to catch your audience's attention, create an immediate effect, and leave a lasting impression.

FROM SMALL OBJECTS TO MOUNTAINS. FROM SCULPTURES AND BUILDINGS TO MOVING OBJECTS

Mapping can be a tool for you to touch and move the audience, at the same time as you present your message.

If you're considering projection mapping as an instrument to help create a different marketing campaign or product, please visit our landing page and leave your contact information. We'll be in touch to discuss your ideas and projects.

CONTACT US FOR PROJECT MAPPING EVENT HERE



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