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ZJA

Zwarts & Jansma Architects

RHDHV

Royal HaskoningDHV

We
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Foreword

“The Netherlands has an excellent reputation and much expertise in the field of sports.

Clusters of expert companies, like for example Dutch Sports Infrastructure (DSI), bring together integrated industrial and management expertise for stadiums and sports facilities. Working closely together with the Dutch government and various sports organizations, such clusters can offer expertise to clients, focused on master planning, legacy, low risk solutions, technological innovations, integrated solutions for infrastructure and profitability for large international sports events like Football World Cups and Olympic Games. The Dutch approach towards developing stadia can be characterized as holistic and business case oriented. For a complex venue development to create a positive result for society, city and business, all aspects related to the stadium area master planning need to be understood carefully and combined into a general approach. This is no better understood than by Zwarts & Jansma Architects (ZJA) and Royal HaskoningDHV.

Urban Master Planning relating to sports infrastructure developments is closely related to stadium design, commercialization and marketing.

The first key is a sustainable planning of multiple and frequent use of the stadium itself. Then, there is a strong relationship between the stadium and the development of mixed-use functions, from leisure to living and retail.

There should be a mutual benefit between all these programmes. A good infrastructure connecting the precinct is vital for the proper flow of all the spectators. At the same time, these major investments need to be carefully fine-tuned with the overall (future) city development. Experience with infrastructure, public transport and car parks is therefore a vital ingredient in the general concept. With all these factors combined, ZJA Zwarts & Jansma Architects and Royal HaskoningDHV can deliver a complete and unique experience for people before, during and after an event and a healthy and sustainable business case. For a successful legacy from a major event, the event venue must not be planned from mono functional and solely logistic point of view, but from deep understanding of the soul of the local culture and climate, leaving a powerful legacy for the future development. This will make it possible for the venue location to transform into a lively city magnet with character. At the end of the day, it is important to deliver a fantastic experience for a global public of visitors and spectators. This experience starts long before the arrival on the precinct, culminates in a great match and will create a lasting and sustainable legacy for the city and the wider region.

Amsterdam, January 2018.



About Us

ZJA and Royal HaskoningDHV have had a working relationship for over 17 years and have worked together on many projects, including a variety of large sports developments. Together, we are a leading independent, international service provider in the domain of project management, engineering consultancy and architecture.

ZJA Zwarts & Jansma Architects

ZJA is an optimistic team that translates often complex assignments into unexpected solutions. We do this in a distinct manner, based on our many years of experience with large-scale building projects. We value our reputation as designers of stadiums, bridges, stations and motorways.

We draw on state-of-the-art technical expertise thanks to amongst others our independent research & development department. In addition, our office boasts an inspiring, multinational and international network of complementary expertise, ranging from structural engineers, urban designers and acoustic engineers to interior architects, sustainability experts and software developers.

Wherever we go, we look. At people, at cyclists, at queues, at building materials, at rituals, at supporters, at how people move in a park, at history, at menus, at a dune, at advertising. Everything we see finds its way back into our work.

Royal HaskoningDHV

Royal HaskoningDHV is a leading independent, international consultancy service provider, mainly specialising in architecture, (master) planning and transport, infrastructure, and water (engineering). Each year we contribute to the delivery of some 30,000 projects around the world on behalf of our public and private



sector clients. Our 6,500 staff add value to our client's projects by providing a local professional service in more than 35 countries, via our fully integrated international office network.

As leaders in sustainability and innovation, we are deeply committed to continuous improvement, business integrity and sustainable development, and working with our clients, stakeholders and communities to enhance society together.

Nowadays we rank in the top 10 of global, independently owned, non-listed companies and top 40 overall. This makes us the first choice consultancy for involvement in major world themes, such as architecture, the development of mega-cities, and sustainable infrastructure and energy resources & supply, such as wave and hydropower. We are also well positioned to contribute to the latest business models, such as Public-Private Partnerships.

Royal HaskoningDHV has been operating in the Middle East for many years and the local offices have all the required certificates for design and engineering services including the functions of the General Designer. Taking advantage of extensive global expertise and experience of our local engineers we provide high quality services well adapted to the Middle East market.

The combined expertise of ZJA and Royal HaskoningDHV

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With Royal HaskoningDHV specialising in amongst others planning and transport, infrastructure, water, energy and buildings, and ZJA specialized in the architecture of amongst others Sports & Leisure, including the architectural design of Stadia and indoor sports facilities and with services ranging from delivering spatial vision documents to comprehensive architectural designs set

in precious landscapes and sensitive urban settings, we together contribute to the delivery of a multitude of (sports)projects around the world on behalf of public and private sector clients.

The combined and complementary expertise of ZJA and Royal HaskoningDHV adds value to client's objectives and together, we have the power to make a bigger difference in the world as we rise to the challenges of our 21st century planet, towards a better, brighter future.

Both companies are located in the Netherlands, with Royal HaskoningDHV headquartered in Amersfoort and ZJA located in Amsterdam.



Project Understanding

Introduction

ZJA | Royal HaskoningDHV are able to undertake design consultancy services in relation to the development of any (FIFA compliant) Stadium. This in accordance with an indicative schedule to be set out by the organizing committee. The Design Stage can include both master plan and design. The following section is directed towards demonstrating an understanding of the technical requirements of such a project.

Understanding of the technical requirements

It is not unlikely that any stadium to be developed will initially be utilized as a venue to host matches during e.g. a FIFA World Cup or an AFC Asia Cup. However, as mentioned also in the foreword, legacy also needs to be taken into account.

In what may be called "Tournament mode", the stadium may accommodate for example approximately 45,000 spectators to FIFA standards, possibly reverting to a smaller capacity of 25,000 spectators in what is designated as "Legacy mode", i.e. the years onwards with the stadium being used in multiple ways. Being able to reduce the capacity requires a demountable stadium solution to be applied to the temporary elements.

Our designs include both modes. Stadium-temporary increase in seating capacity is seen as the most important principal requirement. Both new build and renovation can be addressed. In case of an existing stadium to be renovated, all requirements shall be reconciled with the existing football stadium and a careful approach to renovating and expanding the existing stadium will be developed with modifications both including demolitions, retentions and additions. The overall design will support any national vision, the organizing committee's Mission and Vision, the design vision for any football stadium and associated precinct, and any specific key design criteria for the stadium and / or the precinct as set forth by the organizing committee.

A modular solution to both the design of the stadium accommodation and ancillary facilities can be applied in order to optimise the programme, the legacy opportunities and the quality of the venue.

Assuming that the organizing committee is dedicated to leaving a sustainable legacy that supports a national vision, our approach to sustainability will provide an integrated and innovative application of principles and technologies, that may even go beyond the requirements of any design brief.

For the purpose of precinct security design, and to come from an analysis to controlled measures assuring uncompromised security, we will apply various design tools. Turf design and management will focus on irrigation, soil improvement, aeration and sustainability to deliver a state of the art stage.

Programme-wide design standards will apply to Sustainability, Modular Design, a Demountable Stadium and Design Innovation, with ZJA | Royal HaskoningDHV being responsible for the approach and final design.

As for Modular Design, it is possible that Lessons Learned on the Programme are shared with other venue designs where relevant. Overall, we will adhere to any Design Brief that may be set forth.

As for contract performance, delivery of milestones on agreed dates, not exceeding the approved budget, and appropriate Health-, Safety- and Sustainability measures are considered key.

ZJA | Royal Haskoning DHV will contribute to the client's objectives by:

- Achieving a feasible / sustainable infrastructure during and after the event.
- Offering visitors a "360 degree" experience
- Creating a performance stimulating environment
- Developing a program that stimulates the economy

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Our Approach - Integral Area Development

The development of large-scale sports accommodations, like sports stadiums, must be approached as an optimised and integrated element of its surroundings, with maximum sustainability

Geographically speaking we can define different layers, from the sports complex itself, the adjacent supporting facilities (shops, restaurants etc.) to the connection with the urban, regional and even rural surroundings. The large number of visitors places high demands on different types of transportation. With many stakeholders involved in the integral development plan, communication needs to be fine-tuned for all involved in order to accomplish sustainable, social and commercial added value. This is an important success factor.

ZJA | Royal HaskoningDHV have a lot of experience with integral development of large-scale accommodations and spacious areas, requiring a joint effort of consultancy services in many areas of expertise, from the initial phase up and till realization and exploitation.

Our company culture is open and is aimed at a tight collaboration with stakeholders and business partners.



We have a lot of experience with integral development of large-scale accommodations and spacious areas. It requires a joint effort of consultancy services in many areas of expertise: from the initial phase to realization and exploitation.





Master Planning

We have a vast track record of complex and integrated master planning assignments in Europe, Africa, Asia and the Middle East. Our approach is centered around people, their history, culture and lifestyle that condenses in cities, their meeting places, lifelines of motion and their events. It can be characterised as a holistic, always striving to unite “hard” and “soft” expertise: In Master Planning, we therefore create teams that combine conceptual insight and social and cultural understanding of a place with “hard” engineering, infrastructural and environmental expertise.

This has resulted in a portfolio that is filled with large, complex and specific projects, ranging from very large city developments to small and specific assignments: We are familiar with the role of lead consultant and master planner for developments on an enormous scale like Eco Atlantic City Lagos, a new town that will house more than 250,000 people. But we are equally equipped to work on small and specific master planning projects like the implementation of the ferry transportation system and a new light rail line Al Sufour with related Rail and Ferry terminals in Dubai.

Our philosophy and expertise can be illustrated by three statements:

Enhancing Society by open planning

Master planning is made together with people - stakeholders, users and experts. Our open minded Dutch tradition of planning has become renowned for its interactive organisation, delivering empowerment to all involved. In the course of the planning process, we will streamline the decision making process around a series of decision making steps with built-in participation by representatives of all groups of society.

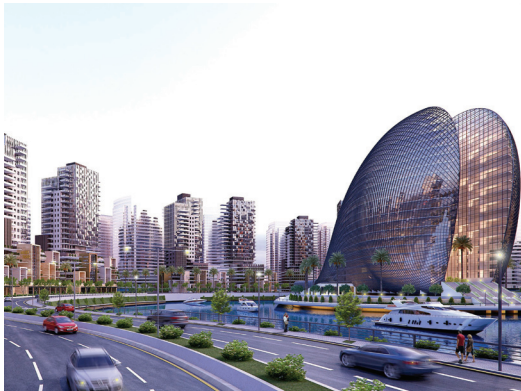
Creating a sustainable legacy by understanding climate and culture

We have local offices in more than 30 countries, all involved in local and regional master planning. We believe creating truly sustainable solutions for people is only possible through a deep understanding of the climate and culture of a society.

Delivering a unique experience by understanding underlying processes
Especially when master planning for events, sports and transportation, streams of goods, energy and people are key to delivering the desired experience undisturbed by congestion or unwanted conflict. Our related top expertise in transportation, traffic modelling, energy and processing gives us powerful tools for accurate modelling of all processes involved.

Sustainable master planning

We continuously seek innovative and sustainable design solutions, combining design experience and technical know how. In Vietnam for example, we demonstrated solutions for water sensitive cities along the Mekong Delta. Another example is Eco Atlantic City: a new city on a new island (820 ha) in the Atlantic Ocean, adjacent to Nigeria. The objective is to protect the coastal line of Lagos and to recreate land that now disappears in the ocean. Besides, Lagos is the biggest and fastest growing city in Western Africa, and the creation of new land can temporarily solve overpopulation. The Masterplan Eco Atlantic sets guidelines for future development and deals with issues like transport and infrastructure, sea-defense and water management.



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Master planning
Feyenoord Area,
Rotterdam, The
Netherlands





ZUARHEDW

Architectural Design

General Design Experience

We are specialised in infrastructure, public transport, sport and leisure. With our architecture we aim to provide a sustainable contribution to the quality of life on our planet. Our inspiration is based on the beauty of nature. Progress in technical engineering is a pre-condition to find solutions to today's challenges, shortage of space, diminishing energy resources and the quest for sustainable alternatives. The state-of-the-art computerisation and other techniques such as parametric design, file-to-factory applications and the most recent 3D-tools are used for generating designs, which are timeless, sustainable and enduring. Designing large-scale projects demands a flexible organisation and a fast and precise method of operation. Our multinational and international design team consists of experienced architects, engineers and consultants, and can easily be adapted to the demands of a project. Our main focal points are sports & leisure, infrastructure, offices and mixed-use development. Our experience ranges from large-scale (master planning) projects and iconic buildings to smaller projects (e.g. product design).

Infrastructure & Public Transport

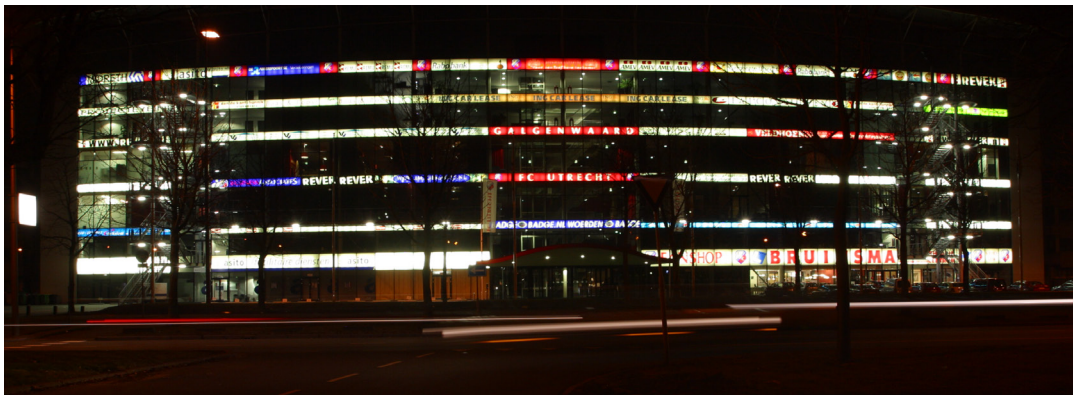
A part of our work consists of the design of infrastructures, bridges, viaducts, tunnels and transfer-hubs. Bridges and tunnels are not just technical and useful structures. The quality of their design depends also on its integration into the landscape and its relation to the countryside or city that surrounds it. A good design takes into account the sensation of the users, which varies according to their speed and mode of transport. It is crucial that solutions are chosen to minimise the negative impact on the natural - and urban environment. Our architecture aims for clear solutions to come to terms with ecological, social and aesthetic aspects from the very start of the design process. Typical examples of experience with infrastructure include the 6th Crossing Dubai Creek Bridge, Dubai (UAE), Light-Rail station Beatrixlaan, The Hague (NL) and Metrostation Wilhelminaplein, Rotterdam (NL).

Offices and Mixed-Use Development

We have a broad experience in designing offices, residential buildings and mixed-use developments. Projects include large office-buildings like the RTA Headquarter - Dubai (UAE), a shopping mall in Ho Chi Minh City (VN), mixed with office-units and car parks, and smaller mixed-use residential and retail buildings like the Apartment-Shopping centre Amstelveen (NL).

Alteration and Refurbishment

Our headquarters are located in the Netherlands, a very planned and organized country with a long history, which is expressed in its old cities and monuments. Because of these existing buildings, a part of our field of expertise lies in the alteration and refurbishment of existing buildings. Typical examples include the renovation and extension of Sportpaleis Ahoy, Rotterdam (NL), Multifunctional Stadium Galgenwaard, Utrecht (NL), Rembrandthuis, Amsterdam (NL) and Tbilisi Central station, Georgia.



Stadium & Sports Venue Experience

One of our focal points is sports & leisure. We have designed a wide variety of sport related buildings and research projects, like for example stadia, sport venues, sport facilities, swimming pools etc. We have experience in full service architectural design and construction of big sports stadia, which - if necessary - are FIFA compliant and which can be used for mayor international sporting events, like for example Feyenoord Stadium and Galgenwaard Stadium. These stadia, together with others, are included as key stadium projects.

We normally approach stadium design from two directions. First, we take a classic engineering approach to creating a logic based on utility and necessity. A good stadium design starts with ideal sight-lines within the bowl of the stadium, excellent internal orientation routes etc. Secondly, we add an additional layer by creating a feeling of intimacy and a good sports-atmosphere within the stadium based on it's unique architecture. Also the precinct is a part of the special sports-atmosphere we aim to create. From the beginning, when entering the precinct, the spectators become part of a experience where it's all about joining to watch the game together and taking part in an experience which is greater than the match or venue itself. These two approaches are joined together in an early stage to become a holistic approach. All of our sports projects are a symbiosis of culture and innovation combined in a unique architectural expression. The majority of our designed stadia are multifunctional and contain mixed-use functions such as offices, shopping centers and car parks. These functions are part of our vision of a modern stadium which isn't only used on match-days, but is part of the greater urban fabric, used on an every day basis, the whole year round. Our latest research & development projects are about sustainability and the legacy of stadia after a big tournament. We have designed and engineered a stadium which is demountable and portable. It's possible to transport the stadium to the next big game. We have included this project as a reference, as key stadium project.

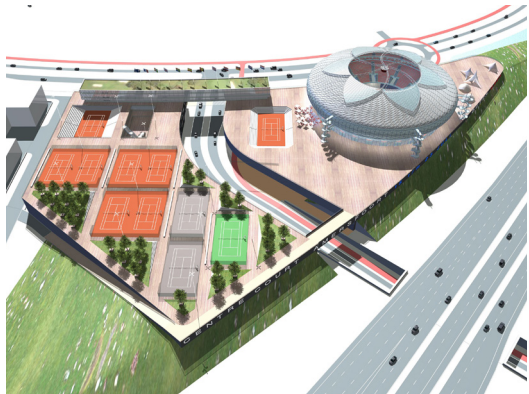
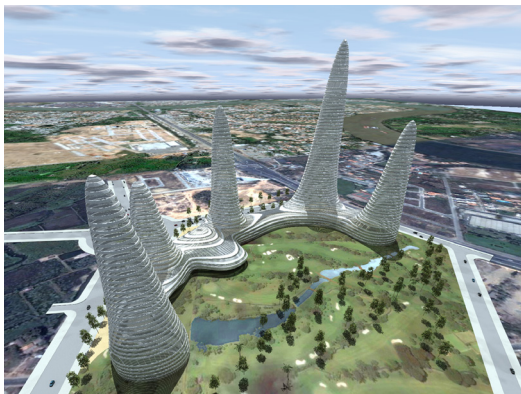
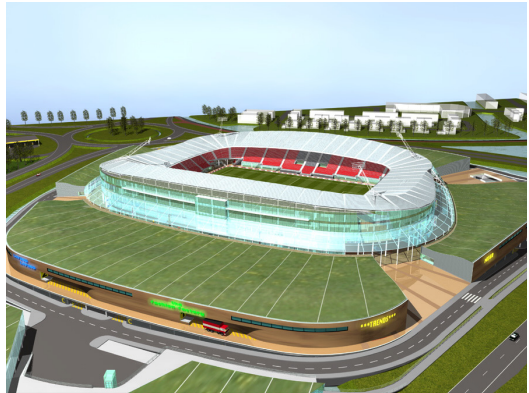
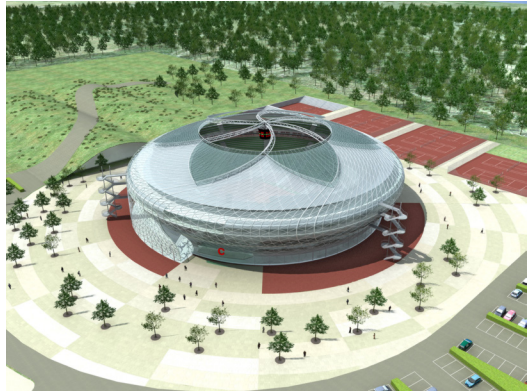
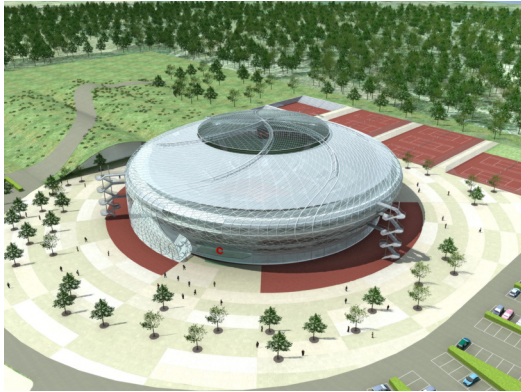
Alteration and Refurbishment

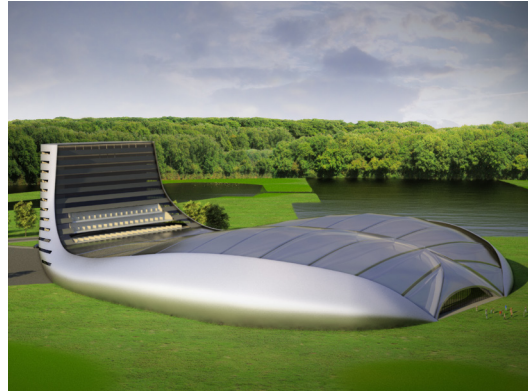
The Dutch premier league has existed for more than fifty years. Many stadia have been built in the last decades, and because of the changing needs of modern professional football clubs, we have a lot of experience in the alteration, extension and refurbishment of existing stadia and precincts, sports & leisure facilities and incorporating mixed-use development within an existing stadium. We have enclosed a selection of alteration and refurbishment stadia and other sports refurbishment projects.

Carbon-Neutral Developments in Buildings

We link the search for minimum footprint to the search for greatest possible added value. On the basis of Cradle2Cradle®, we strive to go beyond neutrality: a positive footprint. One of our landmark projects is a self-sufficient building energy concept for the Abu Dhabi Campus, in which we are the sustainability consultant. The concept for this zero omitting campus is based on the mean, lean, green approach and Cradle2Cradle principles: passive strategies such as extra overhangs and high solar reflections in the glass and state of the art technologies like solar dehumidification. By using PV cells, the campus produces more energy than it uses. The design was presented at the World Expo Shanghai.

We have experience in full service architectural design and construction of big sports stadia, which are FIFA compliant and which are used for mayor international sporting events, like for example Feyenoord Stadium and Galgenwaard Stadium. These stadia, together with others, are included as key stadium projects.





Multifunctional
Football Stadion
Feyenoord,
Rotterdam, The
Netherlands





ZJARHDHV

Orlando Stadium,
Johannesburg, South
Africa





Ideal Stadium 2.0

It is a multifunctional building, which is also scalable. This allows the potential of the structure to be maximised at different points in time. By deploying the building in the most multifunctional way, overcapacity can be reduced whilst simultaneously increasing visitor numbers. Because the significance of spatial configurations are commonly rooted in its history, it is important to anticipate an optimal future legacy at the start of developing a stadium. As a result, the flexible Ideal Stadium 2.0 will be of a much more sustainable nature than the conventional stadium.

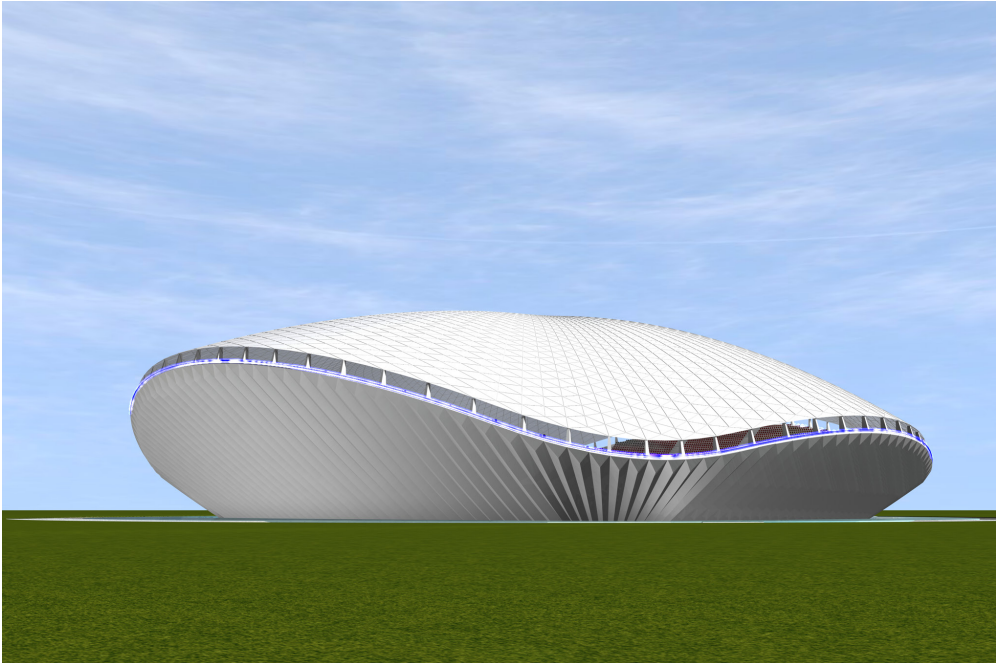
Investigations by ZJA into the Ideal Stadium 2.0 have scrutinized the sustainability of the stadium, in addition to further optimization of the stadium as a viewing platform. In accordance with the latest technical possibilities, a most flexible and multifunctional stadium is proposed. A stadium that also connects the environment with the spatial system of which it is an integrated element. In this approach, the stadium provides a valuable contribution to sustainable urban development.

The main feature of the Ideal Stadium 2.0 is a building with maximum sustainability. Maximum sustainability applies to both its use as well as its impact on its surroundings.

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1.0

Ideal Stadium 1.0



1.0



Ideal Stadium
2.0 / Sustainable
Stadium





ZARDA

Why Choose ZJA | Royal HaskoningDHV?

World-wide expertise, thinking in all directions

As an independent international firm with a particular Dutch flavour, ZJA | Royal HaskoningDHV can provide comprehensive and multidisciplinary engineering, project management and architectural services. A reliable “one-stop” shop, aimed at exceeding the expectations of all our clients, whether they are multinationals, governments or international financing institutions.

By approaching today's issues from every angle, we succeed in finding creative solutions and in adding real value to both business and government policies. Thinking in all dimensions also means bringing together all the necessary specialists in project teams geared towards reaching your goals and targets. The wide range of internationally acquired knowledge and experience available at ZJA | Royal HaskoningDHV has been bundled in to a strong force, each of which has its own focus and skills, while interacting with each other in multidisciplinary projects.

ZJA I Royal HaskoningDHV brings enthusiasm, energy and commitment to working with all our clients. That is how we build relationships that generate trust, understanding and lasting partnerships. We believe in a thorough professional approach and honest assessments as the only foundation for lasting satisfaction.

We understand that our services are only a means to an end. After all, it is the end product that is important to our clients. That end product should be functional, within budget and on time. This can best be achieved when ZJA I Royal HaskoningDHV is involved from the very start.

In many projects we join forces with our clients in interactive alliances. Whether it is in mature markets or in emerging economies, ZJA I Royal HaskoningDHV has proven itself to be a reliable partner, willing to share in the risks and revenues, and offering a wealth of international expertise.





Values

Pragmatics

Innovation

Proven track record (stadiums)

Dutch Flavour

Reliable partners

Creativity in design

ZJARHDPV

References





Multifunctional
football stadium
FC Utrecht, The
Netherlands

Nelson Mandela Bay
Football Stadium,
South Africa





ZJARHDHV

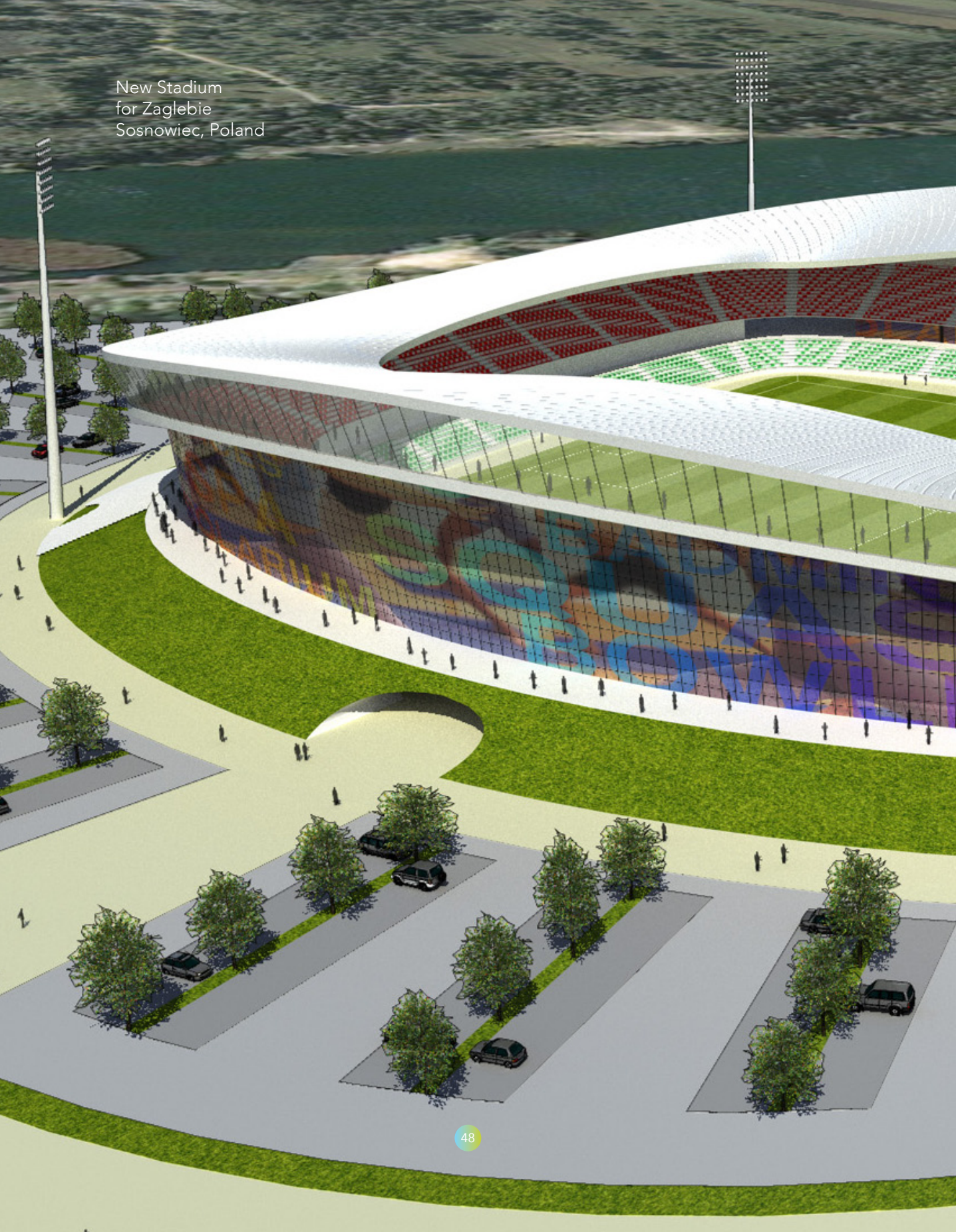
Multifunctional Football
Stadium ADO, The Hague,
Netherlands





ZJARHDW

New Stadium
for Zagłębie
Sosnowiec, Poland





Multifunctional
Football Stadion
Feyenoord,
Rotterdam, The
Netherlands





ETRA AHU ROTTERDAM VERZEKERINGEN

Rotterdam: Mainport Europe

DIRE

Rotterdam: Mainport Europe

BLUETIEK-IN off dealer van: **CHIPIE** IF YOU LIKE BLUE JEANS

PHOTO

Multifunctional
Football Stadion
Feyenoord,
Rotterdam, The
Netherlands





Multifunctional
Football Stadium
AZ, Alkmaar,
Netherlands





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