Spatial Master Planning

Worldwide Expertise in Integrated Spatial Master Planning
Preface

“I am proud to present you our brochure on master planning - a worldwide expertise in urban planning.

Spatial Master Planning
We believe that an integrated approach is the only right way to develop successful plans. We compose tailor made project teams, fit for your needs. We have 8,000 colleagues all around the world, engineers active in all kinds of fields of expertise, and we are used to working together in such a way that innovative solutions are found. Among others, our teams consist of concept developers, strategic consultants, market researchers, urban planners, landscape architects, and engineers in the fields of water, infrastructure, ports, aviation, industry, energy etc.
Our master planning projects are concrete, ambitious and realistic because they are based on thorough socio-economic analysis. In co-creation with stakeholders and planning participants, we develop concepts that communicate easily and will be implemented with enthusiasm. Full regard for the environment of the project, including different aspects of sustainability, is of great importance to us.

Worldwide Expertise
All major projects demand our worldwide expertise; we gain it by working on projects all over the world; from small scale niche projects to regional development plans and everything in between. Our ability to provide global solutions to local problems is the secret to our success. We have been doing successfully so for over 40 years now.

Enhancing Society Together
Together with you, and combined with the expertise of our experts, designers and consultants from all over the world, we work together to enhance the society, aiming to achieve the most sustainable future for your country. In this brochure I will gladly show the projects we worked on in the past, that are under construction now, or already full swing in use, so that you can get an impression of our expertise and enthusiasm.”

C.J. Bandt BSc., Director Planning & Strategy International
Presenting you the best

In our approach the following dimensions can be distinguished.

1: Developing strategies that lead to a sound basis for the project

Vision
A project starts as an idea or a development originating from issues as urban sprawl, poverty, poor living quality, or new chances and challenges. A Vision is needed to set the aim for the project. In order to develop the vision we sketch what the entire development could look like, and assess which parties are needed to make it happen. We work in close cooperation with you, and with other strategic stakeholders. To get this process started, we often develop different strategic scenarios (such as the focus on specific ambitions, a degree of sustainability or different spatial programs).

Strategies are needed to bring the project forward. And last but not least: Management is needed to get things done – the right way, in the right time, with the right people.

Planning
Our urban planners and landscape architects integrate all disciplines into the project, and they come up with innovative ideas and find unexpected synergies. We make the difference by making the project one to be proud of! We find the right balance between flexibility and capturing the strategic choices where needed. Our designers make brochures and websites you can use to attract new clients and businesses for your project. Housing, business parks, retail and leisure developments will be all integrated in one plan. We will go into a little more detail on some important aspects in spatial master planning.

Strategy
We create masterplans for them to be realized. Therefore in our plans we focus on market viability by market research and on political approval by stakeholder management. But that is not enough. To go from a masterplan to realisation we emphasize the importance of a solid development and management strategy. The development strategy focusses on how to get things done: how to phase the project in several smaller plans and projects, arrange financing, create Public-Private-Partnerships (PPP) or other legal vehicles and arrange legal matters as zoning plans and permits. The management strategy provides the organizational structure, systems and procedures for the organization(s) that will be managing the realisation of the masterplan. Important subjects usually are decision making, staffing and education, contract management and supervision, communication and social and environmental issues.

2: Our way of working

Creative process together with you
In our projects we work in close operation with our clients. We take the weight off your shoulders, but co-working with you is essential. What we expect from you? Ambition! It takes a dream to bring your region to the next level. We get there by working together.

Involving the different stakeholders and shareholders at the right time and with adequate information in the developing process is crucial for success. A communication plan will be developed early in the project. Local residents, action groups and councilors will be well informed about the progress of the project so rejection of the plans will be limited, Another way to connect to the local people is via knowledge exchange, informal via brainstorm meetings, or formal via institutional development.
Iterative process
Realizing plans is a different matter than putting plans on paper. What is the best way to create an industrial park, how can we convince launching customers that they should invest in social housing, schools or medical facilities. Our Development Strategy experts bring their broad expertise into your project in order to make it happen.

Independent
Our independent international engineering and consultancy firm provides you the certainty. Our best interest is your best interest.

3: Taking care of the content in an innovative and sustainable approach

Integrated Project Approach
Our master planning colleagues work closely together with our experts on maritime, aviation, infrastructure, water, buildings, industry, energy, waste management, environmental aspects, legal advice and permits. We bring the expertise that is needed in the project from the start, so no time, money or chances are wasted.

Sustainability
A sustainable future is what we need. What this means for each project depends on a lot of things. Taking good care of the environment around you, is what appeals most to people. This means parks and nature for recreational use, fresh air, clean soil, no noise pollution or living next to a dangerous plant. It can also mean the realization of renewable energy, preferably combined with a good solution for waste treatment. Or set an example by building the most beautiful buildings using responsible materials. In what way sustainability works best for your project, and what aspects need to be incorporated in the project, is something our experts discuss with you.

Water
Every day the world is facing more challenges living with water. We provide the solutions. Water introduces both opportunities and risks to communities and nature worldwide as urban populations grow, the climate changes and resources become increasingly scarce. We apply our international knowledge of rivers, deltas and coasts to respond to these challenges and create sustainable coastal zones and delta areas, design resilient cities and communities, manage flood risks and safeguard the quality and security of water and the natural environment. Our technical expertise is applied at all project stages, from strategy, planning, policy and funding advice, through analysis and assessment, to design, construction management and operation and maintenance of assets. We work together with our clients and partners to enhance society by delivering flexible, innovative and sustainable solutions.

Transport
The initiative for a spatial master plan sometimes lies in infrastructure, with economic diversification as a driving force. A new (deep sea) port, airport, highway, or railroad is, in many cases, the first concrete object in spatial development. Development of the surrounding area depends strongly on a sound design of alignment and location of the infrastructure. The other way around is also possible: in fast growing metropolitan areas for instance infrastructure needs to keep up pace with the residential and economic growth. A master plan for the agglomeration in which all relevant elements come together is necessary. Tunnels and bridges are mostly not the first elements to realize, but often play a role as an iconic landmark. Architecture of world-class is what is needed here. It is of eminent importance to integrate infrastructure planning in a broader spatial master plan.
4: Feasible and realistic

Balancing Your Strategic and Financial Goals
Dreaming of, for example thousands of inhabitants, hundreds of international enterprises, high rise and fast developments, is good, but to make the dreams come true thorough market analysis and feasibility studies are necessary. What market demand is realistic, what can be expected or created? What developments will be feasible? What phasing is financially possible? After all, a project needs households, entrepreneurs and consumers to fill up the project. Long term developments ask for regular updates to be able to adjust the project to changes in the market. Today an analysis needs to be up to date to be able to support the entire project and get investors interested. Furthermore creating revenues quickly in order to invest in or finance the next phase is essential. Especially in the financial world we live in today. Our consultants use their expertise and network to design the best investment strategy for your project.

Integrated Fiancial Solutions
Related to investment services we can provide the following services:
1. Organisation phase - Feasibility advisory
   • Financial Feasibility Studies
   • Social Cost/Benefit Analysis
   • Value for Money Analysis
2. Transaction phase - Transaction Advisory
   • Financial Due Diligence
   • Project funding Advisory
   • Transaction Support
3. Operational phase - Financial Management
   • Financial Contract Management
   • Refinancing Advisory
   • Disinvestment Advisory
In all phases:
• PPP Advisory

5: Our Portfolio
We are pleased to present you with some examples of our projects, such as regional development strategies, economic development areas and science parks, airport cities and transportation hubs, waterfront developments and port cities.
New Town Development
Industrial and residential city developments for MODON, Saudi industrial Property Authority. Framework contract for Masterplanning, design and engineering for four industrial cities across the kingdom (Al Kharj, Medina, Gurayat and Sudair) with a combined total size of ca. 320 km².

Services provided:
Full consultancy containing review of all baseline studies including:
• Market and business case report
• Topographical survey
• Geo-technical survey
• Flood risk assessment
• Environmental Impact assessment
• Traffic Impact assessment
• Conceptual and detailed masterplanning
• Landscape design
• Infrastructural design and construction documentation in the following disciplines:
  • Road design and grading services & advance earthworks design
  • Dry and wet services (stormwater, potable water, wastewater, irrigation, electrical, street lighting, telecommunication)
  • Conceptual design of water plant, wastewater plant and electricity stations
  • Network cost assessment and investment strategy review
  • Procurement plan
Sustainable Economic Development for Musandam

Mundam is the most northern governorate of Oman, and is strategically located at the entrance of the Arabian Gulf. It is however also quite a remote area, seen from the rest of Oman, because a part of the UAE is located in between Musandam and the rest of Oman. The limited economic possibilities are, as a result, the challenge for this region. The number of jobs lag behind with the number of people, so many people move, at least during week days.

The policy of H.E. Sultan Qaboos of Oman lies in ‘Economic Diversification’.

Oil and gas reserves are diminishing, so it is eminent to enhance other economic sectors in time. This goes for all of Oman, and even more so for the remote area of Musandam.

The Supreme Counsil for Planning has given Royal HaskoningDHV the assignment for the ‘Comprehensive Economic Development Strategy and Spatial Master plan for Musandam Governorate 2040’; an integrated master plan, in which both the economic opportunities and spatial possibilities are combined. This master plan is the first at this scale for Oman; after this the other governorates will follow. In the process of the project the people of Musandam are particularly requested to speak their mind and ideas for their own future.
Zoning of the Governorate
The economic sectors that can enhance Musandam in a sustainable way, are eco-tourism and cautious growth of the existing economies such as fisheries and crafts. The project leads to an economic development plan for the long term (2040). This strategy is translated into a very concrete plan of action for the next seven years. This is then translated into a spatial master plan in which the space is wanted for the intended developments, at the same time taking into account the highly vulnerable environment of Musandam. A Regional Zoning Plan has been drafted, to allocate functions and regulations, and to guide spatial planning for the future, so a healthy growth can be established in the coming decades.

Services Provided
• Economic research
• Spatial Planning
• Urban Design
• Landscape design
• Environmental analysis
• GIS
• Stakeholder engagement
• Market research
• Fishery
• Quarriing
• Tourism
• Water management
Economic development of 30 km² around the Airport

The project is located near a relatively new airport in the Chinese Yangtze River Delta, located between the cities of Yangzhou and Taizhou. The airport has the potential to drastically improve the accessibility of both cities and region. The municipal government of Yangzhou therefore aims to develop the land near the airport (30 km²) into an airport city, using the airport as a catalyst for economic development. Our study analyses the economic development opportunities in the city and the region. A comprehensive study was done, based on the government’s ambitions for both the airport and the region.

Strategic Spatial Development Plan

From this analysis, three focus areas have been defined as starting points for drafting the strategic plan.

1. To create excellent conditions for the transportation of freight and people, in order to become the major gateway to the region. For instance, by creating seamless connections from downtown to the airport and achieving fast customs procedures for freight traffic.

2. Given the rise of Chinese domestic tourism, substantial opportunities exist to attract tourists to the region and the airport. Both the scenic natural areas (eco-tourism) and the cultural heritage in nearby cities enable this potential growth.

3. The expected strong economic development of the airport region will generate a need for supporting (commercial) services, with e.g. shopping centers, restaurants, cinemas, not only serving air travelers, but also people living in the nearby rural communities.

These considerations were included in an urban economic strategy for the airport area. This strategy includes the economic opportunities in the area (possible functions), their spatial layout and size, recommendations for increasing air traffic and a phasing plan. For all functions, an estimate of the necessary development space in the airport area has been made. The resulting data have been translated into an urban – economic development plan.

Specific attention was given to freight traffic, creating economic opportunities for the city and region in the fields of logistics and high tech manufacturing. Also, the fertile Yangtze River Delta enables the development of productive agricultural areas that benefit from air freight connections (transport of perishables).

The project is developed in close cooperation with Netherlands Airport Consultants (NACO), a company of Royal HaskoningDHV.

Services Provided

Royal HaskoningDHV made a spatial economic development plan for the airport area. Services included:

- desk research of local and national policy documents
- interviews with local representatives and stakeholders
- design of an long term economic development strategy
- analysis of the current socio-economic situation
- research of the economic development opportunities and possible growth sectors
- defining the location of new economic clusters
- developing a strategic development plan
- a proposed phasing for the development area.
Master Planning Delhi – Mumbai Corridor
This prestigious project concerns the preparation of a master plan for the development of the investment region, from vision to implementation, from regional planning to detailed design. The sustainable plan does justice to the rich ecological, social, and cultural values of this 200 km² area in Rajasthan, a state with approximately 57 million people. The project is part of the DMIC.

Economic base, sustainable development
DMIC is a mega infrastructure project of USD 90-billion, covering an overall length of 1,483 km between the political and the business capitals of India, i.e. Delhi and Mumbai. The DMIC corridor runs through five states and seeks to create a strong economic base with a globally competitive environment and state-of-the-art infrastructure to trigger local commerce, enhance foreign investments, employment and attain sustainable development. Royal HaskoningDHV was leading partner in the consortium with Kuiper Compagnons.

Services Provided
- Master planning (together with Kuiper Compagnons)
- Engineering and Design
- Cost estimates
- Feasibility study airport
- Infrastructure / road linkages
- Pre-feasibility analyses
- All water related issues
- Economic analyses (together with Ecorys)
- Real estate consultancy (together with Cushman & Wakefield)
Sarah Baie Dakar - Senegal

New marina for Dakar
Sarah Baie is a private initiative of Corte Marine SA to develop a new urban area near the centre of Dakar. The project reclaims land from the sea and creates a barrier in front of the cliffs of Dakar. The cliffs of Dakar are instable, and measures need to be taken to protect the cliffs from further erosion. Sarah Baie comprises the development of a full service marina, restaurants, shops, hotels, leisure facilities and a residential area with apartments and villas.

The master plan creates an integrated area with a vivid city life. The master plan is composed in such a way that functions interact with each other, and stimulates a mixed-use area where people meet, are seen and want to be seen, and where public space is entertainment in itself.

Spatial program
Sarah Baie will be an extension of the city that offers all kinds of attractions. The site covers an area of 18 hectares and will offer space to:

- A marina for some 90 yachts and full harbour services
- A commercial program of 7,500 m² shops and restaurants, a casino and night club. Hotel and resort offering around 350 rooms to tourists and businessman
- A residential area of about 85 villas and 200 apartments.

Services provided
Royal HaskoningDHV was assigned to make the spatial master plan for this new urban area, and the technical design for the marina, land reclamation and basic infrastructure, including:

- An integrated plan that proves the technical, environmental and economic feasibility
- Investigation of the technical conditions of the cliffs, and the measures to be taken to stabilize them
- Engineering of the land to be reclaimed from the sea in a technical and financial feasible way, regarding sea- and geotechnical conditions
- Design of the physical possibilities to reach and enter the site with a steep height difference of about 30 meters on a limited area, and considering the instability of the cliffs
Development plan and Zoning System
Sint Maarten is a beautiful Green Island located in the Caribbean. The touristic and recreational pressure is considerable, which conflicts with the green appearance of the tropical island, while that green is necessary for the desired quality. The island is privately owned for the bigger part, and people are used to build preferably where they want. However to give guidance to the development, Royal HaskoningDHV is requested to make Developments plans for Sint Maarten.

Stakeholder Engagement
Per sub-area public meetings are held, and the principles for development are discussed. Via this kind of public consultation the Development plans will be drafted. They will be the framework for spatial development on Sint Maarten for the future.

Services Provided
1. Vision Development:
   • Residential area planning
   • Landscape architecture
   • Road network improvements
   • Water management
   • Industrial aspects
   • Agriculture and Food security
   • Cultural heritage and Archaeology
2. Public consultation and Stakeholder Management
3. Development and Detailing Zoning System
An Aerotropolis as result of economy driven development

The project’s objective was to produce a feasible and sustainable master plan for the 400 hectare Mon Trésor site. This site is owned by the sugar and energy company ‘Omnicane’ and is located to the south of the Mauritius’ International Airport and borders at the sea. The European Investment Bank financed and led the project, supported by Omnicane as local promoter. The Master Plan concentrates on the first ten years of development and is based on a long term regional development vision.

The main principle in this master plan is that urban development follows economic development. The Airport region of Mauritius shows yet hardly any development but international companies and investors are interested in the country and the site for investment and settlement. What’s missing is a good mixture of offers for business parks around the airport with a prime accessibility. Therefore the Master Plan starts with organising accessibility and the planning of business sites. The development of residential areas and services – important to plan these close-by to reduce energy waste for commuting – is the next step in the development.

New for Mauritius is that the residential development aims on the growing middle-class with good quality and available housing in a sustainable setting. The proximity of the sea is a bonus!

The long term vision foresees a continuous economy driven development around the airport, forming a mixed use Aerotropolis of 25 km² with 150,000 new inhabitants in 50 years.

Integrated approach

For this master Plan the team, which was led on request of the Client by the urban designer, worked closely together to integrate all relevant issues, such as market, transport, environment, social and cultural aspects from the start.

Sustainable and green development

The plan offers working – living – leisure – services at a short distance, to prevent unnecessary travel and energy wastage. Walking and cycling are stimulated by the provision of dedicated paths. Heritage elements, topography, landscape and existing trees are integrated in the plan. All roads will be planted with trees. A large part of the plan area is reserved for greenery. The plan aims to save energy and water and to produce (solar) energy.

The preservation of the coastal landscape will be actively supported.
Stakeholder engagement
Mauritius government usually plays a passive role in spatial planning by means of regulations. For this project however, government was actively engaged in the planning process to share information, insight and for preparing governmental support in the later stages of the project, when permits will be required.

The importance of planning
The consultants strongly emphasis that the Airport Region on Mauritius have a huge potential for job creation and sustainable development, if government takes the lead in solid, long term spatial planning for land use and infrastructure. The plan gives examples how to organise this.

Services Provided
- Market analyses
- Urban planning and Urban design
- Landscape design
- Infrastructure planning
- Strategic Environmental Impact Assesment
New Water Front Development combined with Flood Protection
In Nijmegen a 350 m landward dike relocation will allow for increased river discharge, adapting the densely populated area to climate change while keeping the people protected from flooding. The construction of a secondary channel will create a new island right in the city center. The waterfront of the city will be enhanced, extended and serve housing, recreational and ecological purposes. The new development will become an essential link in both the urban plans of the city - helping it to ‘embrace’ the river - and nature development, forming a valuable part of the natural river corridor. The integrated urban plan is already attracting international attention and is a successful example of integrating spatial quality and flood safety.

Five key elements which make the Room for the River Waal project unique:
1. Flood safety (climate change adaptation) enables new waterfront development
2. Innovative participatory process via soft communication and active stakeholder participation
3. Linking environmental challenges with urban developments
4. Design respects history and offers direct potential for local community
5. Waterfront designed to experience the river.

Services Provided
- Urban planning and Urban design
- Landscape design
- Infrastructure planning
- River morphological modelling studies
- Environmental impact assessment
- Preparation of specifications for water management
- Design of the Water system
- Supervising of the construction progress and reviewing any changes in design and/or execution of the works

Veur Lent, Nijmegen The Netherlands
300 Islands in the shape of the world’s continents, are being created off the coast of Dubai. The World offers imaginative investors an unprecedented opportunity in the form of leisure, residential and tourist developments, introducing over 232 km of new beach front to Dubai’s coastline. The island Korea is one of the islands. G&G | PARTNERS has commissioned Royal HaskoningDHV to design the development to provide an unique island with a high density. Urban massing and densities, beaches and quay walls, utilities and vessel mooring have been designed by us, well within the design control regulations.

Luxury apartments, 5-Star-hotel and Marina
The proposed design for the island Korea brings together all the elements of a unique destination where architecture and landscape are complimenting each other. A continuous landscape is superimposed over the original shape of the island as provided by the master planner of The World: Nakheel. Above the landscape, free-standing dynamic wings are reaching out over the landscape towards the ocean, creating spectacular views from out- and inside the island. Under the landscape a hidden podium with an accessible rooftop accommodates facilities and provides air-conditioned routes to different parts of the island. The build-up area is mainly concentrated at the northwest and southeast tip of the island, therefore an open space in between is created which can be used as a park.

Island ‘Korea’ in ‘The World’ – Dubai

This high-density island is offering mainly residential space. The residential components of the island are complimented by a hotel, leisure (spa and fitness), commercial, management/maintenance building, service utilities and a marina. A total of 45,000 m² enclosed floor area is realized above ground floor with a total FAR of 1.4. The five-star hotel shall be close to a private beach and overlooking the ocean. The marina is allocated over the length of the island facing a water plot / commercial marina, at the deeper south-west side in order to accommodate sufficient berths and reduce the walking distance to a destination on the island. The tip of the marina walkways can be used to moor longer vessels, like a ferry or a luxurious yacht. The main entrance of the island will be situated in the middle of the marina.
Concept of three elements
The island design consists of three different elements:

1. A landscaped layer providing recreation space like a park, beaches, terraces and swimming pools. An in-and outside landscaped route shall link the different destinations of the island.

2. Dynamic wings shall provide flexible space for different types of residential components, hotel rooms and commercial spaces like a restaurant. The volumes are carefully positioned in order to create a balanced open area in between to guarantee a sense of intimacy and create optimal access to the waterfront. The buildings are set-backed at the ocean tips and surrounded by open galleries which can be used as private gardens.

3. A podium covered by a landscape, provides space for routing, hotel entrance, leisure (spa and fitness), commercial and a management / maintenance building. The service utilities will be allocated in the basement, screened from the public.

Sustainability, Green Building characteristics
Much attention has been given to the sustainability of Korea Island. This is reflected through the implementation of Green Building characteristics such as: maximizing open space and enabling a good indoor environmental quality. To drive sustainability, we are pursuing LEED Silver rating. This US based rating system is adopted in the United Arab Emirates, and encourages the implementation of sustainable Green Building and development practices. The strategies to pursue LEED Silver rating are summarized in the table below:

<table>
<thead>
<tr>
<th>Sustainable sites</th>
<th>Water Efficiency</th>
<th>Energy &amp; Atmosphere</th>
<th>Indoor Environmental Quality</th>
</tr>
</thead>
<tbody>
<tr>
<td>&gt; Creating green space</td>
<td>&gt; Water efficient landscaping</td>
<td>&gt; Energy performance</td>
<td>&gt; Optimise indoor air quality</td>
</tr>
<tr>
<td>&gt; Community connectivity</td>
<td>&gt; Treated wastewater on-site</td>
<td>&gt; Enhanced commissioning</td>
<td>&gt; Use low emitting materials</td>
</tr>
<tr>
<td>&gt; Heat island effect</td>
<td>&gt; Water use reduction</td>
<td>&gt; Refrigerant Management</td>
<td>&gt; Daylight &amp; views</td>
</tr>
</tbody>
</table>

| Materials and Resources | | |
|-------------------------| | |
| > Minimise construction waste | | |
| > Recycled content | | |
| > Regional materials | | |

Services Provided
Important services that Royal HaskoningDHV provided for this project are:
- Urban planning and Design
- Landscape design
- Architecture
- Cost and revenues / FAR
- Marina design
- Coastal defence
- Minimising environmental impacts
Master Plan Development
RHDHV has produced an initial master plan which interconnects the existing spatial structures by means of a number of circular asphalt roads, thereby creating a recognizable identity as an ‘automotive campus’. The design allows for further R&D facilities and workshops to be added in phases.

Services Provided:
• Urban Design
• Architecture
• Infrastructure
• Cost calculation
Caofeidian Ecological Coastal City - China

With Compliments of International Jury
The concept allows for the creation of fresh ground-water in a sustainable manner for use in the city's green spaces. The international jury, consisting of experts from Italy, Sweden, and China, complimented the proposal for the way it combined coastal development, energy, water, and transport into an attractive urban design.

Ecological Coastal City
The new coastal city will be built in Caofeidian, an industrial zone in North China on the Bohai Sea. Caofeidian has to become the model for China and the rest of the world of a Chinese ecological coastal city. Because of the coastal location in a salt-water area, and because of the limited rainfall in the north of China, there is little fresh water available for the future inhabitants. One of this project’s challenges is to capture and recycle fresh water in as a sustainable manner as possible.

Services Provided
• Conceptual design
• Urban planning
• Urban design
• Sustainable city development
• Design of coastal defence system
• Water management
• Environmental aspects
• Utilities lay out
The Challenge
The Sahara Group wants to develop 750 ha around their Egbin power plant, the largest power plant of Western Africa. The project area is located at the shore of the Lagos Lagoon, at some 25 km from the city centre of Lagos via water, and 60 km via road. The accessibility is limited, which restricts the possibilities for development.

Our Solution
The accessibility is increased by creating a 10 km new road, planned in an empty corridor between overhead power lines. Next to this an upgrade of the water taxi system improves the connectivity with the rest of Lagos. Now the location can be transformed into a high tech business park and campus area, with a focus on the technical fields of expertise of the power plant. The development will be supported by marinas, high end residential areas and urban facilities.

In 10 to 15 years’ time some 175,000 jobs can be created and 250,000 people will live in a safe, secure and above all inspiring environment, providing Lagos with an unknown development for technical innovation.

Services Provided
• Scenario and Concept Development
• Urban Planning
• 3D-imaging
• Landscaping
• Water Management
• Transport
• Utilities
• Environment
• Risk Analysis
• Costs and Revenues
• Promotional Video
Welcome to the Spine of Palm Jebel Ali, Dubai

Vibrant heart and connection to the main land
The Spine of Palm Jebel Ali is a unique feature in the Palm trilogy of Dubai. Most islands don’t really have a vibrant heart, but for Palm Jebel Ali Royal HaskoningDHV design the ‘Inner Sanctum’ of island. Our concept revolves around movement through and subsequently experience of space. This is not just one entrance, but rather a sequence of entrances. Coming from the bridge between Trunk and Spine, the first encounter with the Spine is defined by low rise, articulated, water front arcaded buildings on either side, backed up by two firm midrise blocks set far apart. The overall setting is broad rather than high, a friendly, small scale start of the Spine, which we refer to as the garden entrance. The bridge subsequently leads to the central boulevard, which is here surrounded by individual low rise buildings such as the school, the mosque, the emergency rescue center and the district cooling plant and again backed up by low and midrise apartment blocks in the second line. We envisage these buildings to be loosely placed in a green and publicly attainable green zone. We refer to this part of the scheme as the suburban garden. In the final, northern most part of the project, two podia rise on either side of the boulevard, providing an urban platform for two freestanding high rise towers of plus minus 40 stories on either side, backed up by four midrise towers behind. This grandiose setting introduces the high rise center of the Spine beyond. As in the other zones of our concept we envisage a refined play between building mass in the foreground and the background, allowing for a rich and diverse spatial experience. We have aimed for a careful balance between small scale, earth bound townhouses, apartment buildings and public facilities throughout the scheme, counterbalanced by individual high rises. This is reflected in the architecture, where the low rise buildings have vernacular influences, where the high rises are more abstract and timeless.

Services Provided
- Urban planning and Design
- Landscape design
- Architecture
- Infrastructure
- Cost and revenues / FAR
- Coastal defence
Science park Vnukovo, Moscow

VHP designed the masterplan for Vnukovo Business Park in Moscow, a 15 hectare office, hotel and congress location next to Airport and MKAD ring highway. Unlike most office locations in Moscow, which are normally just large parking fields with several buildings on it, this plan is focused on a meaningful public plaza with Kremlin like spatial setup and a pleasant “enjoy work” atmosphere.

Vnukovo Business Park will house between 10,000 to 15,000 employees, in a combination of 150,000 m² of offices, a 3 star hotel, a congress centre plus shops, restaurants, healthcare and children’s day care.

The Kremlin principle
To create a special working environment with added value, everything in Vnukovo is centered around its special public space, a sequence of internal courtyards with trees, fountains and gardens. To achieve this within the condition of contemporary car traffic, the walled city principle which has been so famously been put in place in the Kremlin, has been used in an innovative way: All car circulation and parking is organized from outside the wall, where also all parking garage entrances are situated. The car circulation has been carefully modelled to also work in rush-hour-conditions. Inside, a new pedestrian world is created.

Sustainable model city
Vnukovo’s planning horizon reaches far beyond building completion. It is conceived to house state of the art sustainable building technique and shared facilities. Low energy prices in Russia are usually an obstacle to implementation of energy-reducing building technique. In Vnukovo, modern facilities will be shared and maintained through Park management, therefore significantly reducing individual costs.

Services Provided
- Full master planning services
- Urban planning and Urban Design
- Landscape Design
- Architecture
- Transport and Utility Planning

Science park Vnukovo, Moscow
New Island for 400,000 people

Eko Atlantic City is a new city center for Lagos, capital city of Nigeria, the biggest and fastest growing city in Western Africa. Eko Atlantic will be built on a land reclamation in the Atlantic Ocean. The land reclamation has started in 2009, and will be finished in 2016. Eko Atlantic will combine residential, commercial, financial and touristic accommodations in a location serviced by a state-of-the-art high tech infrastructure. The new city targets 250,000 residents and 150,000 commuters. The Master plan Eko Atlantic sets guidelines for future development.

Land Reclamation Design

Main issues are transport and infrastructure, sea-defense, land use and regulations for development, water management and technical services. This project asks for a very fast and integrated process. Surveys, technical studies, marketing and designing the new city on several scales have to be executed simultaneously. A team of our specialists works closely together in order to find adequate and innovative solutions for the high ambitions of the client and future inhabitants of Eko Atlantic City.

Services Provided

- Morphological modelling studies
- Environmental impact assessment
- Physical modelling studies to determine the stability of the sea defence
- Design of the 1th km sea defence
- Urban planning
- Urban design
- Infrastructure planning
- Industrial design of the utilities
- Design of the Water system
- Preparation of specifications for the production of quarry material for the seawalls
- Bathymetrical surveys of the project area
- Proposals for detailed road design & utility services
- Study for stabilisation of the 100 year old East mole breakwater
- Supervising of the construction progress and reviewing any changes in design and/or execution of the works
Regeneration of Paris
EPA Plaine de France is the State development company for the area north of Paris, and is in charge of developing the Triangle de Gonesse, 1,000 ha strategically located between Charles de Gaulle Airport (Europe’s second largest passenger airport) and Le Bourget (Europe’s largest business airport). Triangle de Gonesse will offer a high quality business environment of circa 150 ha, which will accommodate more than 1 million m² of airport-related offices, commercial activities and educational facilities. Furthermore, Triangle de Gonesse will host EuropaCity, Europe’s largest leisure and shopping centre, a project of Immochan, the real estate arm of Auchan. EuropaCity will be an investment of more than €1.8 billion with more than 600,000 m², and eventually more than 30 million visitors per year. These developments will lead to a vibrant new city-like green working environment with a multimodal transport hub, sustainability, excellent accessibility by public transportation and creating maximum value for the larger airport corridor between both airports. The consortium consists of Royal HaskoningDHV - Güller Güller - EBP - Paul van Beek. We performed in-depth international market analyses for a wide range of business functions, the marketing messages, real estate programming, and international benchmarking of best practices at leading airports with respect to state of the art business park developments. Furthermore, we provided specific services in the field of sustainability and water management.
New Port City of 95 km²
Royal HaskoningDHV was engaged by Midroc for preparing the master plan for an integrated port, industrial and residential complex development at a greenfield site of 95 km² (ca. 6.5 x 14 km) on the Red Sea coastline. Important objective of the port is to stock grain. Midroc is a large, Saudi-headquartered, industrial conglomerate that has been given the sole rights to develop this complex. Within a three month time span the Royal HaskoningDHV project team completed the full master plan study, including seven physical scale models.

These scale models have been built in the Netherlands, under the supervision of our project team. A 15 m² 1:3,000 scale model represents the full master plan. Six 1:500 scale models show typical sections of the plan.

Services provided
• Port planning
• Urban planning
• Landscape architecture
• Environmental impact assessment
• Infrastructure engineering
• Industrial planning
• Water management
• Ecology
Kribi Industrial Port-City, Cameroon

New Deep Sea Port for Cameroon
The challenge was to plan and organize the development of the Kribi Industrial Port Complex, a 260km² industrial and residential city near Kribi, a coastal town in south western Cameroon.

The objective was at the one hand to use the rich mineral resources for the sustainable, economic development of the country and at the other hand to preserve the large areas of pristine tropical forest by concentrating urban activities.

Economic Impulse for Kribi: Jobs and houses for 300,000 People
Royal HaskoningDHV was commissioned by the government of Cameroon to create the Development Strategy, the Spatial Master Plan / Zoning Plan and the Management Plan, incorporating all relevant aspects for the new development.

The project provides for a deep sea port, an industrial zone for heavy, medium and light industry and a modern residential city to house up to 300,000 people by 2040. The development starts with the production and export of minerals, energy and petrochemicals. The settlement of medium and light industry will be stimulated to bring more jobs and added value.

The residential and the industrial city are strongly interrelated. They are planned close to each other to minimize commuting distance and to spare the rain wood in the region. But they are zoned in such a way that industrial emissions won’t harm the citizens and that industrial activities are not limited by residential areas.

Zoning Plan and Regulations to guide the future
The Zoning Plan is the legal translation of the spatial master plan giving rules and limits for the development and thus safeguarding the dedicated areas. General regulations apply to the whole project area, and specific rules for the segmented industrial areas, residential areas, infrastructure, utilities, water system area et cetera. The regulations refer to the usage, density, safety distances, water management and so on.

Stakeholder Engagement with pilot companies and local people
Many Government Entities were involved in the project as well as major industrial multinationals. Issues, options and opinions were surveyed in interviews and workshops and processed in the plans. Special attention was given to the local communities in order to preserve their social and cultural values and their room for living.
Management Plan: Implementation of the Strategy

Starting a new and ambitious large scale industrial and residential city from scratch is a major effort, especially when government demands a modern, international, sustainable and thriving city as a result. The Kribi Management Plan leads government in the organisation of all aspects of the new development: from how to manage the port, to which new laws are required, to financing models, setting up housing and utility providers, water management, asset management, educating staff and so on.

Services provided:
- Master Planning
- Zoning
- Urban Design
- Transport and Utility Planning
- Environmental Planning
- Financial Feasibility
- Management Planning
Science Parks for Vladivostok
The Asian Pacific Economic Conference in 2012 (APEC) recently took place in Vladivostok. Royal HaskoningDHV developed several variants, including the final one, for the master plan regarding the business centre and specific concepts of the Conference Centre and the buildings of the Retreat House. The ambitious program links Russkij Island to the mainland through a spectacular bridge. On the island itself, a Conference Center, International Press Center, Theatre en Opera House, Hotels, World Trade Center, Exhibition Center, and an Oceanografic Museum were developed to kick-start the further economic development of Vladivostok as a major hub city in East Asia.

Services Provided
- Full master planning services
- Urban planning and Urban Design
- Landscape Design
- Architecture
- Transport and Utility Planning

Wladiwostok Russkij Island - Russia
Skolkovo Innovation Centre - Moscow, Russia

Business Parks Development for Moscow

Skolkovo Innovation Center is a unique combination of public and private research and innovation, combined with a world class business environment and hi-quality living and leisure. With a total program of approximately 2,000,000 m² of built program, it is Russia’s biggest and most ambitious scientific development of this century so far. It will combine commercial research and development, university, hotel, congress, and living for academic (international) inhabitants into a fully self-sustainable urban campus, perfectly linked to the center of Moscow and its international airport of Vnukovo, supported by a unique set of shared facilities for first-class innovation. Our town planning concept envisages to create a unique, pleasant urban campus where the potential of the concept of Skolkovo Innovation center can fully come to life and continue to grow in its success throughout the 21st century. The design is based on four strategic principles, which are, Urban Laboratory, Urban Campus, 24/7 Active Heart, and Beyond Sustainability.

Services Provided

- Conceptual master plan
- Urban planning and Urban Design
- Landscape Design
- Architecture
- Design of infrastructure: Sustainable ‘zero energy city’ infrastructure
Eye of Maldives - Gulhi Falhu, Maldives

Resort Planning for Maldives
“The Eye of the Maldives” lays a foundation for a new city with a sustainable way of life for the Maldivian people. This unique island creates space for a green environment open to all. In the next five years, 2,500 homes, a shopping center, a 10 ha large campus with an international school, a hospital, a business complex and various leisure facilities including a golf course, a public beach and a floating promenade with several restaurants will rise on the island. The connection with other islands will be made by a floating bridge.

Services Provided
• Flood protection of momentarily submerged atoll
• Full master planning services
• Urban planning and Urban Design
• Landscape Design
• Architecture
• Design of infrastructure (e.g. floating bridge)
Airport City Design for 1.5 Million People
The Shenzhen Bao’an International Airport (SBIA), one of China’s largest airports, assigned NACO, a company of Royal HaskoningDHV to prepare an urban plan for the airport’s landside area in front of the newly built terminal 3. Multi-modal accessibility is spearheading the development of Shenzhen Airport. NACO contributed further to this by developing an integrated and highly efficient transportation system and a conceptual design of a ground transportation center (GTC) in front of the Terminal 3.

Multi-modal Transport System for Sustainable Development
The GTC will act as gateway for several modes of transport between the new terminal, the airport city, and the city of Shenzhen, Hong Kong and mainland China by (hi-speed)train, metro, car, bus, taxi and ferry. The main challenge of this assignment was to on one hand integrate the airport city development into the urban tissue of an already developed urban area with about 1.5 million inhabitants directly adjacent to the airport, which on the other hand should function as a catalyst for a transformation of the same area. Our multi stakeholder approach has led to a mutual willingness to make the Shenzhen airport (region) China’s most thriving one. The airport city and GTC are currently under construction. Completion is expected during 2013.

Shenzhen Airworld - Shenzhen, China

Services Provided
- Airport Design
- Urban planning and Urban design
- Landscape design
- Infrastructure planning