



荷兰健康建筑设计师与工程师

DUTCH HEALTH ARCHITECTS & ENGINEERS





University Hospital Ghent K12, Belgium

根特大学儿科医院

荷兰健康建筑设计师与工程师

DUTCH HEALTH ARCHITECTS & ENGINEERS



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Honliv Hospital Cancer Center
宏力医院肿瘤中心

COMPANY DESCRIPTION AND CAPACITY

公司介绍和公司实力

DUTCH HEALTH ARCHITECTS & ENGINEERS

PROVEN COLLABORATION

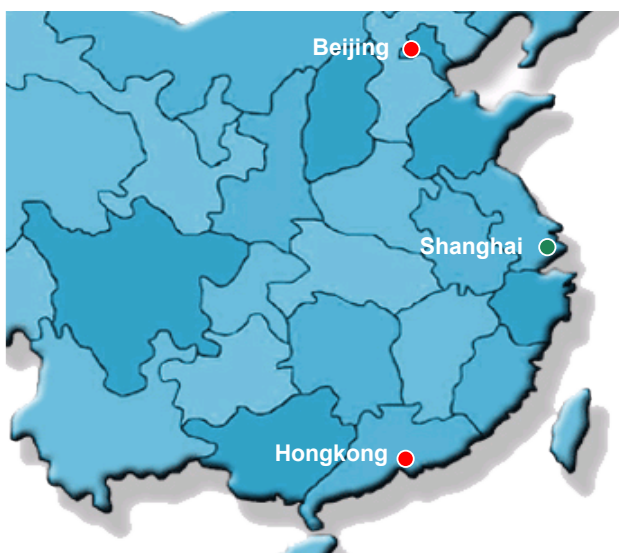
In order to serve our clients in the international healthcare business, Dutch Health Architects and Royal HaskoningDHV have joined forces to provide a full service package.

The joint experience and knowledge provides international clients with the possibility to discuss their demands on specialist level with a wide view on healthcare. It is our challenge is to define and fully understand the demands of our clients before we start developing the best possible 'answer' in designing a building. It is not just about implementing proven solutions, but generating intelligent concepts that facilitate the clients organization now and in the future.

Royal HaskoningDHV and DHA are working in collaboration on a number of (international) hospital projects in combination with other firms; examples of this collaboration are numerous hospitals in the Netherlands, the Honliv Hospital Cancer Center in China and the new hospital in Paramaribo, Suriname. Both firms have extensive knowledge regarding healthcare projects which brings an efficient and effective partnership.

From the day we started our business, we have a firm believe that it is essential to have all necessary fields of design and engineering expertise in-house. In that way we can deliver the best and most sustainable hospitals to our clients since we can decide on the priorities of the resources. Furthermore we are strongly convinced that only by working closely together physically and mentally, a true integrated design is within reach. Integrated design balances all requirements and brings them in align with the available financial resources and time span.

Success in the healthcare market needs good local know-how. Therefore we combine our knowledge with the specific needs for each country and project by working together with our local companies on the spot. We operate from more than 100 offices across 35 counties all over the world.



Royal Haskoning DHV has been active in China for more than 30 years and has two offices in Beijing and Hongkong.

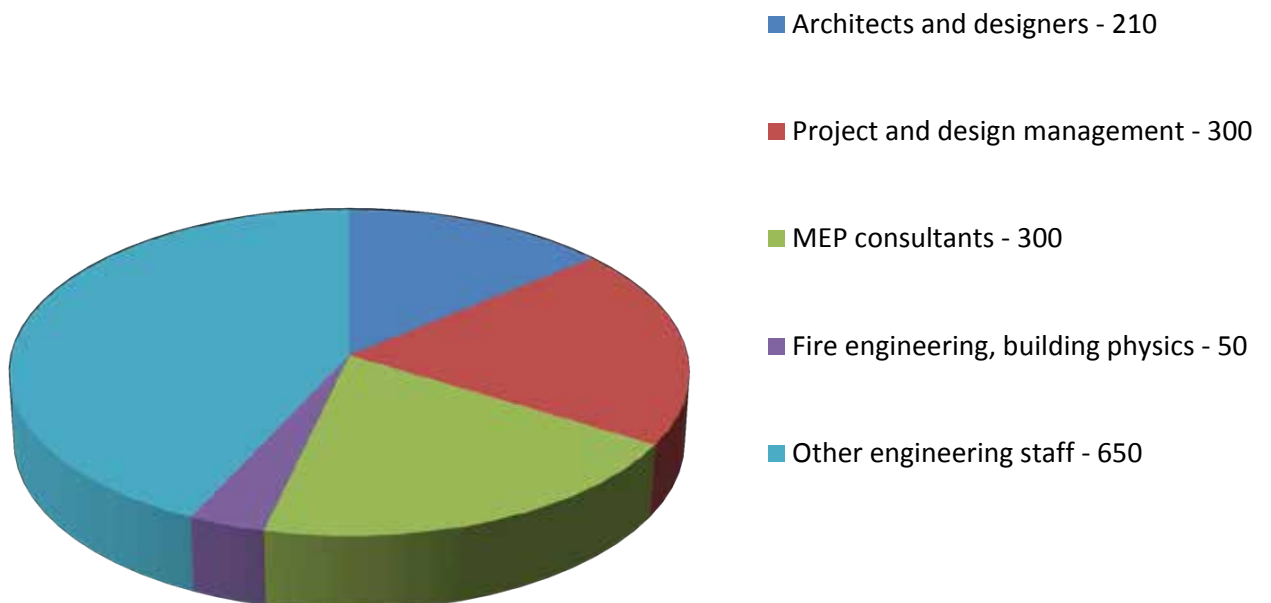
Royal HaskoningDHV has transferred its Shanghai based industrial and healthcare business to Century 3

Both Royal HaskoningDHV and DHA staff work in collaboration with universities on developing healthcare knowledge. Staff of both firms are lecturers at universities (Technical University of Delft; Technical University of Eindhoven) and are editors of international journals in healthcare.

Resources and experience

Royal HaskoningDHV and DHA together have more than 100 years experience in designing buildings. Out of the total staff of both companies, > 7.000 employees, 1.500 experts are active in the healthcare and other real estate markets.

Of the over 7000 employees of Royal HaskoningDHV, approximately 1500 employees are involved in industry and utility buildings on a daily basis.



荷兰健康建筑设计师与工程师 久经考验的合作

为了更好地为我们国际医疗行业的客户服务，荷兰医疗建筑公司与皇家HaskoningDHV公司携手合作提供整套服务方案。

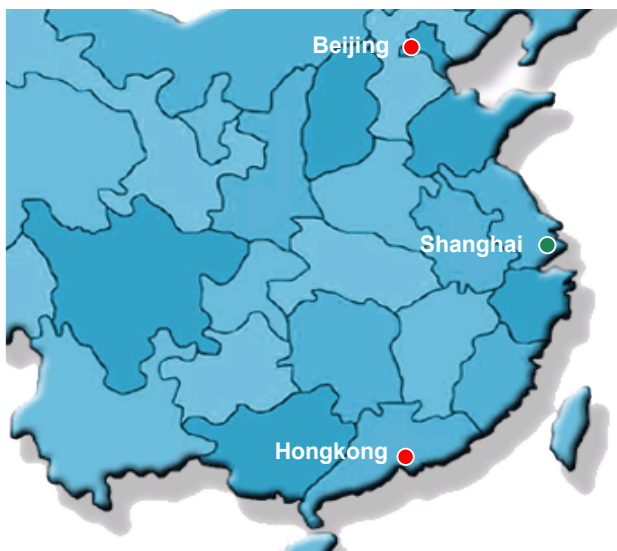
将经验和专业知识汇集到一起，我们可与国际客户在专家层次、以宽广的视角探讨其在医疗保健方面的需求。在为一座建筑的设计寻找最佳可行的“答案”之前，充分地了解和认识客户的需求是我们对自己的挑战。因此，我们不仅仅局限于实现已被证实的解决方案，而是为客户提供更加明智的概念，这种概念不仅有利于客户目前的组织方式，更可服务于未来。

皇家HaskoningDHV公司和荷兰医疗建筑公司正与其它公司合作开发几项(国际性)医院工程。这类合作的例子包括位于荷兰的多家医院、中国的宏力医院癌症中心以及苏里南帕拉马里博的新医院。两家公司均在医疗工程方面具备广博的专业知识，双方的合作是高效和实际的。

自开业之日起，我们就坚信公司内部掌握全部设计和工程领域所需的特长十分关键

。这样我们能决定资源使用的优先次序，因此能为我们的客户提供最佳和最具可持续发展性的医院。此外，我们坚信只有让物质与精神方面紧密协作，才能实现真正的集成设计。集成设计可均衡各方需求，并将需求与可用的资金和时限保持一致。

要在医疗保健市场取得成功需要有良好的本地专长。因此，通过与我们的当地公司现场协作，我们将自己的专业知识与每个国家和项目的具体要求相结合。我们的业务范围跨越全球35个国家，拥有100多家办事处



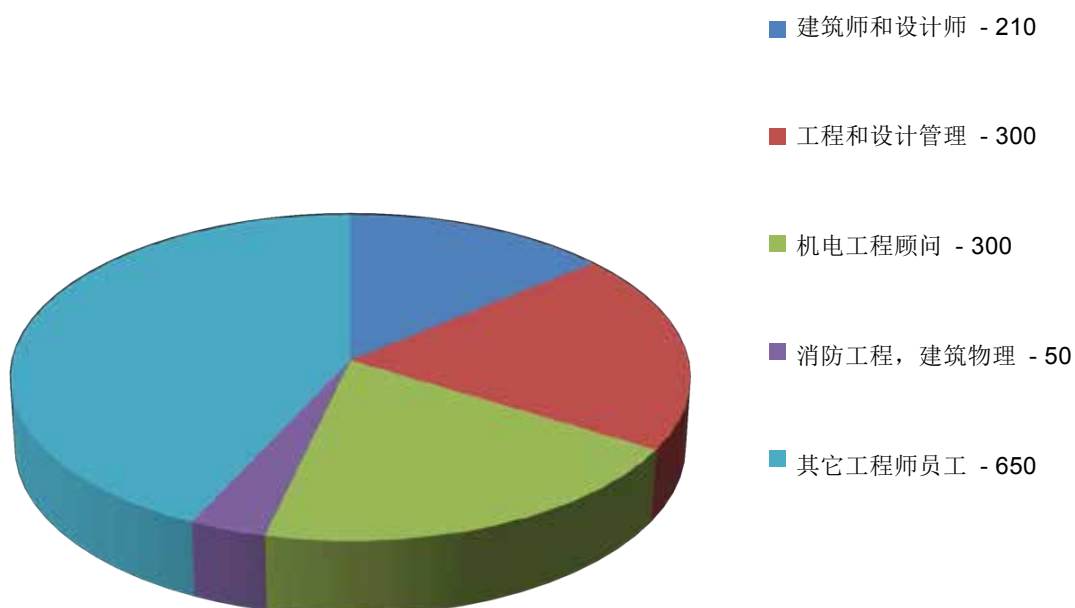
皇家Haskoning DHV公司在中国积极发展业务的时间已超过30年，公司有上海、北京和香港三家办事处。

皇家HaskoningDHV公司与荷兰医疗建筑公司的员工与大学协作开发医疗保健专业知识。两家公司的雇员均包括大学讲师(代夫特技术大学，埃因霍温技术大学)和医疗保健国际期刊的编辑。

资源和经验

皇家HaskoningDHV公司与荷兰医疗建筑公司一起拥有超过100年的建筑设计经验。两家公司员工总数超过7000名，有1500名专家正活跃于医疗保健市场和房地产市场。

皇家HaskoningDHV公司的7000多名员工，每天约有1500名员工参与工业及公用设施施工。





Zaans Medical Centre, Zaandam, The Netherlands

荷兰Zaandam市Zaans医疗中心

DUTCH HEALTH ARCHITECTS COMPANY PROFILE



Dutch Health Architects, which originates from architectural firms founded in the 1930's, is an independent architectural firm operating worldwide. The consultancy services provided by Dutch Health Architects root in an architectural background and focus on people's interaction with their environment.

With a total staff strength near 210 working nationally and internationally Dutch Health Architects can call on a strong resource base and offer quality services based on globally built experience.

Dutch Health Architects takes a multidisciplinary and integrated approach to any project covering technical, logistical, legal, organizational, social, environmental and economic aspects to arrive at sustainable and practical solutions.

Trough our personal service, we thus contribute effectively to a successful planning, design, implementation, commissioning and operation of projects and programs.

The mother firms are accredited to Quality Management System Standards ISO 9001 Environmental Management Standards ISO 14001.

The firm's turnover in 2012 was approximately € 25 million.



荷兰医疗建筑公司 公司简介



荷兰医疗建筑公司成立于1930，是一家独立运营的国际建筑设计公司。DHA根植于其建筑背景，提供关注人与自然的设计服务。

公司在全球工作的员工将近210名。荷兰医疗建筑公司依靠其深厚的资源基础，以在全球范围积累的经验提供优质的服务。

荷兰医疗建筑公司应用多学科和综合性方法来处理包括技术、物流、法规、组织构架、社会活动、环境及经济领域的各项工程，提供可持续的行之有效的解决方案。

通过我们的定制服务，我们提供成功且高效的规划、设计、实施、调试和运营方案。

我们的母公司拥有ISO9001环境质量管理体系标准认证

ISO14001环境管理标准认证。

2012年公司的营业额约为2千5百万欧元



Albert Schweitzer Hospital, Dordrecht the Netherlands
荷兰Dordrecht市Albert Schweitzer医院

ROYAL HASKONINGDHV COMPANY PROFILE



Royal HaskoningDHV is a leading international consultancy and engineering group that provides services and sustainable solutions for the Healthcare market. A total of 7,000 committed Royal HaskoningDHV professionals develop innovative concepts in the fields of management, consultancy and 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.

Royal HaskoningDHV its services include management consultancy, advice, design and engineering, project management, contract management and operational management. Our annual turnover of €700 mio places us among the top 10 in the world of independently owned, non-listed engineering companies and makes us part of the top 40 worldwide. Furthermore our company is ISO9001:2008, ISO14001:2004 and OHSAS 18001:2007 certified.

Royal HaskoningDHV in health care

Royal HaskoningDHV has a long and strong track record working on projects regarding healthcare throughout the world. Among the projects realized are (academic) hospitals, psychiatric institutions, prisons, homes for elderly and very specialized facilities like specific specialized hospitals and nuclear facilities. We have a broad experience in designing complete new hospitals as well as renovating (complete) hospitals.

Royal HaskoningDHV its extensive experience in health care comprises the whole process of building planning, from initial conception to realization till operational management of the real estate assets. We make it possible to facilitate and manage, in close corporation with our partners, participation in creative processes over the whole life cycle.

We expand our hospital design knowledge across the world and execute healthcare projects in Surinam, the Caribbean area, Denmark, China, Egypt, Ghana, South Africa, Bangladesh and Thailand.



皇家HASKONINGDHV公司 公司简介



皇家HaskoningDHV公司是一家国际领先的工程咨询集团，为医疗保健市场提供咨询服务及可持续的解决方案。皇家HaskoningDHV公司7000名敬业的专业员工在管理、咨询和工程领域开发创新性概念。每年我们代表公共和私营部门的客户，为世界各地3万项工程的交付贡献力量。皇家HaskoningDHV公司的服务包括：管理咨询、建议、设计和工程、项目管理、合同管理和运营管理。公司年营业额达7亿欧元，我们是全球10大独立经营的非上市工程公司之一，并跻身全球40强之列。此外，本公司已通过ISO9001:2008、ISO14001:2004和OHSAS 18001:2007认证。

皇家HaskoningDHV公司在医疗保健领域

皇家HaskoningDHV公司在世界各地的医疗项目操作方面拥有丰富和骄人的记录。其完成的工程项目包括(大学)医院、精神病院、监狱、老人院及非常专业化设施，如特殊的专科医院和核设施。在设计全新医院及修缮(整座)医院方面，我们拥有丰富的经验。

皇家HaskoningDHV公司在医疗保健行业的丰富经验包括从最初构想到工程实施，直到房地产资本经营管理整套建筑规划流程。我们与合作伙伴紧密协作，在整个使用周期协助并管理参与创新过程。

我们在全球范围推广我们的医院设计特长，并在苏里南、加勒比地区、丹麦、中国、埃及、加纳、南非、孟加拉国和泰国实施了医疗项目工程。

CENTURY 3 COMPANY PROFILE



OUR VISION

To achieve worldwide recognition as a technologically innovative and cost-effective service provider in engineering and construction market.

OUR MISSION

To deliver value to our global clients by bridging the gap between the west and the east through a professional and committed team.

OUR VALUES

We want to provide our global clients with the best solution for engineering and construction projects in China. We succeed in doing this by following Century 3's brand essence: Delivering Value. We deliver value by bridging the gap between the west and the east, developing and maintaining a professional and committed team and providing sustainable solutions. We act in our clients' best interests while always commit to safe practices.

Century 3 (Asia Pacific) Inc. is an award winning international engineering and construction firm with nearly 200 projects successfully delivered in the China market. Century 3 is unwavering in its mission to:

- Deliver value to global clients
- Bridge the gap between west & east
- Develop and maintain a professional & committed team
- Hold safe practices as the culture that forms its core value

Serving the client needs of global leaders across a wide spectrum of industries, Century 3 specializes in:

- Project engineering, from conceptual design to detail design
- Project building, from foundation to start up
- Project relocation, across local and international borders

Century 3 is regarded as a construction and engineering standard bearer by trailblazers in:

- Automotive
- Aerospace & Avionics
- Advanced Materials
- Chemical & Pharmaceutical
- Electronics & Semiconductor
- New Energy
- Food & Beverage
- General Manufacturing
- Emerging New Processes



Since establishing operations in China in 2004, Century 3 (Asia Pacific) Inc. , with headquarters in Shanghai, has grown to include more than eight hundred (800) engineering and construction professionals deployed at ten (10) offices throughout the country. In addition to its China operations, access to internal and external resources deployed in North America, Europe and in South East Asia gives Century 3 (Asia Pacific) Inc. a pool of experience capable of responding to any client need. Using the passion for professionalism that drives its core guidepost which has caused it to consistently deliver high quality services, Century 3 (Asia Pacific) Inc. is firmly established as an international benchmark for excellence in construction and engineering in:

- Consulting
- Site Selection
- Design
- Engineering
- Procurement
- Construction
- Industrial Plant / Equipment Relocation & Installations
- Construction Management
- Facility Maintenance & Improvements

Century 3 is proud to be one of the few, if not the only, international firms with Chinese government issued Licenses to provide services as:

- Engineering (class A chemical, class B petrochemical, pharmaceutical, general building)
- Construction (class II construction)
- Jianli (Class A Construction Supervision, Class B Municipal Utilities Supervision)
- Trading

CENTURY 3

公司简介



愿景

以不断技术创新、高效经济运营为理念，致力于发展成为一家国际知名的工程建设服务公司。

使命

通过一支专业而高效的团队为全球客户创造价值，并为东西方企业搭建沟通的桥梁。

价值

在中国，我们为来自全球各地的客户提供优质可靠的工程设计及建设施工方案。传递价值”是生特瑞的 品牌精髓。通过一支专业而尽职的团队，我们为东西方客户搭建沟通的桥梁，长期不懈地提供优质服务。生特瑞秉承安全第一的理念，每时每刻关注客户的利益所在。

作为一家屡获殊荣的国际建筑工程公司，自入驻中国市场以来，生特瑞已成功服务于近200个项目。

生特瑞始终致力于：

- 为全球客户创造价值
- 构建东西方桥梁
- 发展一支具备专业素养的敬业团队
- 将安全生产作为企业核心价值

生特瑞为全球各行业的领军企业提供全面的工程服务，我们擅长：

- 项目设计 - 从概念设计至详细设计
- 项目建设 - 全方位施工服务包括建筑施工、机电安装、室内装修等
- 项目搬迁 - 从本地搬迁至国际运输

生特瑞是工程建筑行业内的领军者，我们的业务覆盖：

- 汽车
- 航空及航空电子设备
- 高级材料
- 化工及医药
- 电子及半导体
- 新能源
- 食品
- 一般工业
- 新兴制造工艺

生特瑞(亚太)有限公司成立于2004年，总部位于上海，现已在全国10座城市设有分公司，拥有800余名行业精英。生特瑞在北美、欧洲及东南亚拥有广泛的合作关系，能以国内外丰富的资源和项目经验为客户提供任何类型的工程服务。生特瑞孜孜不倦地提高专业水平，为客户提供精益求精的顶级工程服务。生特瑞的专业水准体现在以下服务类型：

- 咨询
- 选址
- 设计
- 工程设计
- 采购
- 施工
- 工业厂房/设备搬迁及安装
- 施工管理
- 设备维护及翻新

生特瑞可能是目前唯一拥有中国政府颁发的以下全部资质的外资企业：

- 设计资质（甲级化工、乙级石化、乙级制药、乙级建筑）
- 施工资质（二级施工）
- 监理资质（房屋建筑工程监理甲级资质，市政公用工程监理乙级资质）
- 贸易资质





Research Building VU Medical Center, Amsterdam, The Netherlands

荷兰阿姆斯特丹自由大学医疗中心研究楼









Neonatal Intensive Care Unit, University Hospital Leuven, Belgium

比利时鲁汶大学医院新生儿重症监护病房

HOSPITAL DESIGN

医院设计



Zaans Medical Centre, Zaandam, The Netherlands
荷兰Zaandam市Zaans医疗中心

VISION ON HOSPITAL DESIGN

Dutch Healthcare is well known for its innovative approach and effectiveness. New concepts focusing on patient logistics and efficiency of workflows and work-processes are combined with aspects of Lean hospital design, Healing environment and the Plane tree Philosophy.

It is our challenge to define and fully understand the demands of our clients before the best possible 'answer' in designing a building is developed. It is not just implementing proven solutions, but generating intelligent concepts that facilitate the client's organization now and in the future.

We have a multidisciplinary and integrated approach to our projects, covering technical-, logistical-, legal-, organizational-, social-, environmental- and economical aspects to arrive at sustainable and practical solutions. And last but not least, we create an inspiring environment for people to feel comfortable.

In the vision of DHA/Royal HaskoningDHV hospitals and adjacent facilities should be able to accommodate the rapid developments in healthcare and be able to facilitate new treatments without compromises as well as be able to provide patients, personnel and visitors a healthy and preventive atmosphere (healing environment) for the benefit of shorter average treatment times and better working conditions.

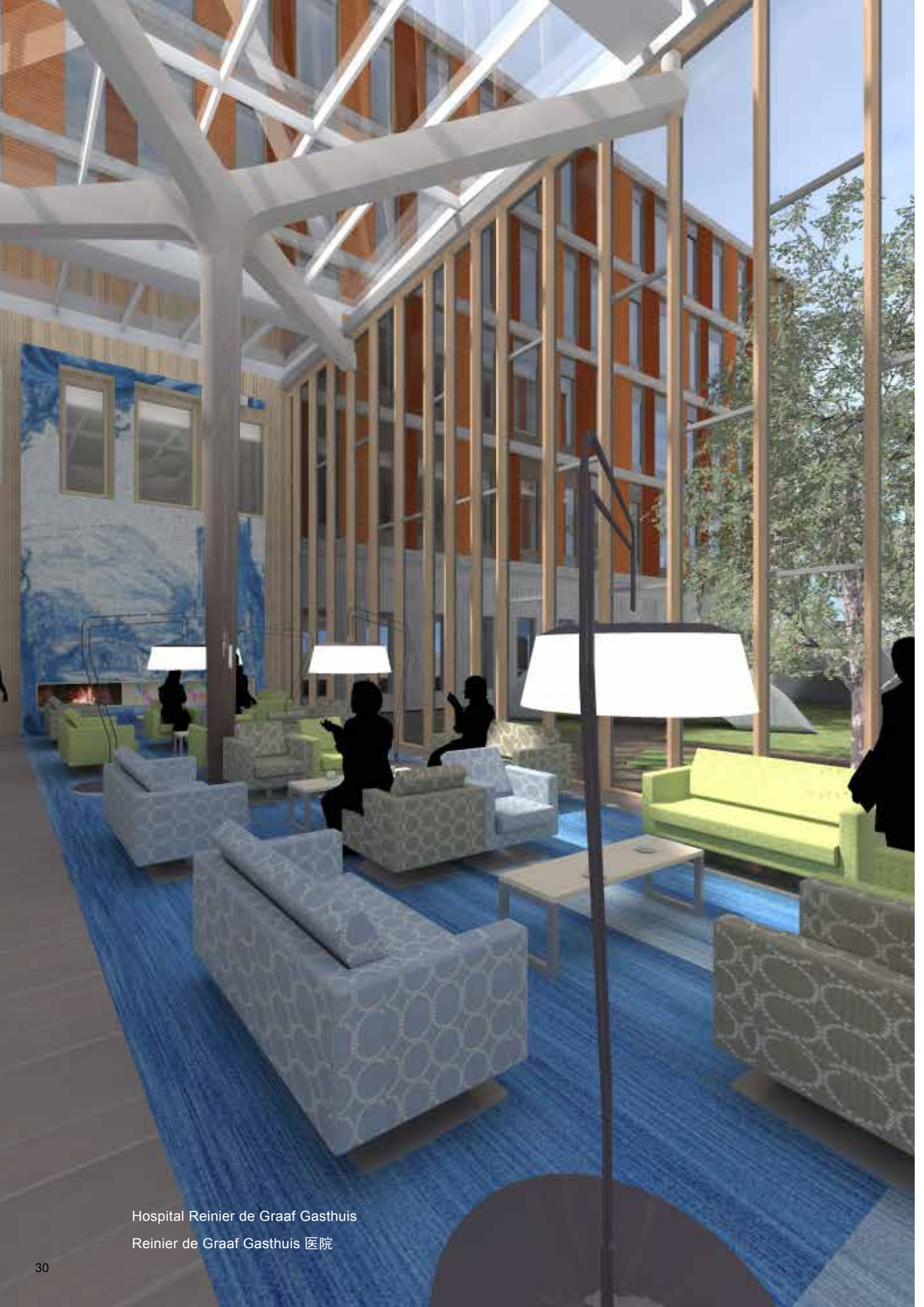
The beauty of a good hospital lies in the inside: the design of the functional aspects and the healing architecture asks for designing from the inside out.

Dutch hospital design has the tradition of creating the design in close corporation with the client, using workshops, dialogues and expert meetings. These 'open design processes' guarantee that the expertise of the end-users is always incorporated in the design. For DHA/Royal HaskoningDHV the advantage is that by the processes we are able to gain a lot of practical knowledge that we consider to be very precious to serve our clients.

The experience in design hospitals in this tradition for more than 50 years, gives us the freedom to generate new hospital concepts in which functionality and safety are combined with healing environment and excellent architecture.

The tradition of the 'open' design-process gives us the opportunity to integrate the culture of the client's organization and the unique aspects of rich Chinese cultural tradition in our projects in the most intelligent way. Also new concepts for better healthcare can be implemented in the best harmony.

Our efforts results in unique hospital projects according to the latest international standards that can serve the local society in the best possible way.



Hospital Reinier de Graaf Gasthuis
Reinier de Graaf Gasthuis 医院

医院设计的愿景

荷兰的医疗保健业以其方法创新及成效卓越而闻名于世。全新的理念更多地关注在优化患者的组织管理以及提高问诊流程的效率，同时还与精益医疗设计理念、康复环境和Planetree的治疗哲学相结合。

在为一座建筑的设计寻找最佳可行的“答案”之前，充分地了解和认识客户的需求是我们对自己的挑战。因此，我们不仅仅局限于实现已被证实的解决方案，而是为客户提供更加明智的概念，这种概念不仅有利于客户目前的组织方式，更可服务于未来。

我们采用了多学科和综合性的方法来处理包括技术、物流、法律、组织构架、社会活动、环境及经济领域的各项工程，提供可持续且行之有效的解决方案。最后值得一提的是，我们构建了一个宜人的环境，使所有人都倍感舒适。

荷兰医疗建筑公司与皇家HaskoningDHV公司（DHA/Royal HaskoningDHV）认为，医院及其临近的设施应能满足快速发展的医疗保健需求，并且能够全方位的为新治疗方案提供便利。与此同时，还能够为患者、员工和来访人员提供一个健康、安全的环境（康复环境），有利于缩短诊疗时间、加快患者康复并为工作人员提供更加舒适的工作环境。

一家优质医院的精妙之处在于内部的功能性设计，康复建筑构架要求由内而外的全面设计。

荷兰的医院设计一贯坚持通过研讨会、对话协商和召集专家共议的传统方式与客户保持紧密合作。这样“开放式的设计流程”可以集众家之长，确保最终用户的所有专业理念都融入到设计当中。对于荷兰医疗建筑公司与皇家HaskoningDHV公司来说，在这一过程中我们可以获得大量宝贵、实用的专业知识，这将可以更好地为我们的客户服务。

超过50年的医院设计经验始终坚持这一设计传统，丰富的经验为全新设计概念的诞生创造了广阔空间，这一概念将功能性和安全性与康复环境及绝妙的建筑构架结合起来。

“开放式的”设计流程使我们有机会更好地将客户的组织文化和中国传统文化的独特之处整合到我们的项目当中。同时还能以最协调的方式实现医疗服务的全新理念。

所有的医院项目均按照最新的国际标准进行，我们为打造独一无二的医院而不懈努力，竭尽所能以最好的方式服务当地社会



Haga Hospital, The Hague, the Netherlands
荷兰海牙Haga医院

HEALING ENVIRONMENT AND EVIDENCE BASED DESIGN

We are convinced that the design of the physical environment of healthcare facilities can play an important role in increasing quality of life of residents by improving sleep, supporting orientation, reducing agitation, increasing social interaction and providing control and choice. Different aspects of the environment, such as unit size and layout, provision of private rooms, noise levels, and supportive design features, will contribute to better outcomes among patients, students and staff. Creating a homelike environment is also of primary importance in the sense that patients have the opportunity to participate in activities that are familiar from their past lives (as opposed to rigid institutional routines) and spaces that are similar in size and shape to those found in people's homes.

The quality of break-out and landscaped spaces within the hospital are essential contributors to a positive experience of the hospital and educational environment for all users. The disposition, scale, orientation and design objectives of each of these spaces will be carefully considered within the context of the whole building in order to achieve an optimal integrated approach which complements the interior design and wayfinding strategy.

We strive to innovate new health care concepts focusing on patient satisfaction and safety, the efficiency of the workflows and processes, optimizing the quality of care. Our method is Evidence Based Design, where we keep ourselves up to date with best practices and research to make informed design decisions to create an optimal Healing Environment.

One of the important factors in creating a healing environment is access to natural daylight. In the current design, many inside situated rooms are included. In the design review we will optimize the orientation and locations of these spaces.

In recent years it has become increasingly evident that the environment has a great effect on human wellbeing. In relation to health care and hospital design it has a vital effect on the health care outcomes of patients, the involvement of relatives, and the health and efficiency of the staff.

Creating an Evidence Based Design means that every design decision is based on evidence, from science and research, stating how environmental factors can have an important impact on the healing process and health care outcomes of people. We take into account not only the patients in the hospital but also their families, as well as the hospital staff.

康复环境和循证设计

我们深信，通过改善睡眠、路线引导、减轻烦躁、增加社会沟通和提供控制和选择，医疗设施的物理环境设计可在提高住院者生活质量方面发挥重要作用。环境的不同方面，例如单位面积和布局、提供私人房间、噪音等级和支持性设计功能等，将有助患者、学生和工作人员获得更好的效果。创建温馨如家的环境及与家中面积和形状类似的空间，对患者有机会参加其过去生活中熟悉的活动(与院校严格的日常活动相反)也十分重要。

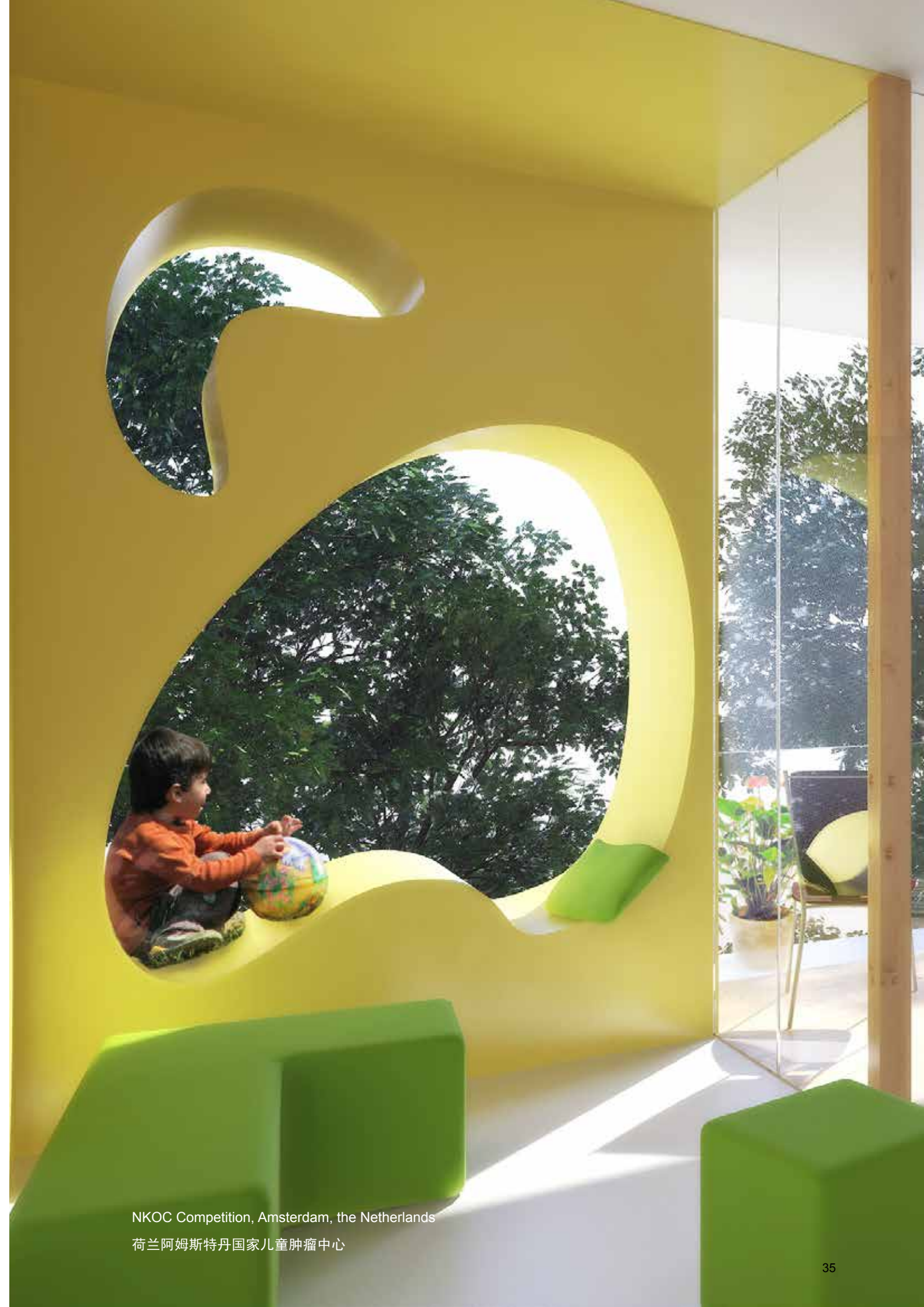
医院内歇息和景观空间的质量是为所有使用者创造积极就医体验及教育环境的重要因素。每个空间的布置、面积、朝向和设计目标都会仔细考虑到整个建筑的内涵，以达到最佳整合效果，还可作为室内设计和路线引导策略的补充。

我们努力创造医疗保健新概念，注重患者的满意度及安全、问诊流程效率并优化护理质量。我们采用循证设计法，保持自身与最新的最佳实践和研究成果同步，做明智的设计决策，从而创造最佳康复环境。

创建康复环境的一个重要因素是采用自然光。当前的设计包括很多位于内部的房间。我们在设计审查过程中会优化这些空间的朝向和位置。

近年来，人们越来越意识到环境会对人们的健康带来巨大影响。在医疗保健和医院设计方面，环境对于患者、亲属参与、员工健康和工作效率等具有重要影响力。

创建基于循证的设计表示每个设计决定都是以科学研究证据为基础，表明环境因素如何能对康复过程及人们的医疗效果产生重要影响。我们不仅考虑医院里的患者，还考虑到其家人以及医院的工作人员。



NKOC Competition, Amsterdam, the Netherlands
荷兰阿姆斯特丹国家儿童肿瘤中心

Daylight

Daylight plays an important role in the overall experience of a physical environment. Exposure to light has proven to reduce pain, improve depression, improve the biorhythm of the body and thereby the sleep rhythm. Patients assigned to sunnier and brighter rooms turn out to have shorter hospitalization time and quicker recovery. Furthermore, patients in brighter rooms have proven to experience less stress and worry. More practically light has proven to have a large impact on medication and journalization errors as well as injuries amongst patients and staff. Well lit spaces ensure fewer errors and fewer accidents.

Views and Access to nature

The possibility to see or to stay in a green environment has been proven to affect the psychological and physical wellbeing of humans positively. Several studies indicate that real or simulated views of nature can relieve psychological and physiological stress. Gardens and green environments can give a restorative escape from the busy hospital environment, not only for the patients but for relatives and staff as well. Views to nature have furthermore proven to alleviate pain, through increasing the production of positive emotions, reducing stress and distracting patients from focusing on their pain.

Easy Orientation

Designing health care facilities that are easy to overview, can improve the patients' experience remarkably, as the experience of not being able to find ones way only underlines the stress and worry one may already feel from being in an unfamiliar health care environment. In hospitals, a structure that is easy to overview and navigate has proven to save time and money, in terms of time spend by the staff to show bewildered visitors around. Creating a well-organized plan, where related functions are gathered, reduces the internal distances, which saves time and has proven to reduce staff attrition and stress.

Comfortable Acoustic Conditions

Hearing is one of the senses that constitute the human alert system and as opposed to the eyesight it cannot be turned off. Accordingly, unpleasant noise has been proven to have a negative effect on people, bringing psychological reactions such as irritation, fatigue, inattention and low pain threshold.

Indoor Climate

Unfortunate indoor conditions, such as uncomfortably high or low temperatures or bad air quality have been proven to have a negative effect on work performances, mood as well as physical wellbeing. People who are hospitalized are excessively sensitive to the environmental conditions, and for this reason it is an extra important factor when designing health care environments.

Private Space

The possibility to be private has proven to be important in order to build up a confident relationship between patient, relatives and staff. Clear communication has a crucial impact on the course of the disease and the treatment. The opportunity to stay in single bedrooms has proven to ensure a better feeling of privacy for the patient. There are less noise disturbances from other patients, ensuring a better feeling of confidentiality and improving the communication between staff, patients and relatives. Among the staff single bedrooms are furthermore considered more appropriate for examinations and consultations. Single bedrooms moreover prove to give a lower ratio of hospital-acquired infections as a result of less contact between patients and easier and more thorough cleaning procedures.

日光

日光在一个物理环境的整体体验中发挥着重要作用。日光照射已被证明可减轻疼痛、改善抑郁症、改善身体生物节律从而改善睡眠节奏。被分配到阳光充足和明亮病房的患者的住院时间较短且康复更快。此外，在明亮房间中的患者被证明其感受的压力和忧虑更少。更多的实用光还被证明对用药失误和日常操作失误以及病人和工作人员受伤有很大影响。采光良好的空间可减少失误率及事故的发生。

观赏和访问自然

能够观赏或身处绿色环境已被证明对人们的心理和身体健康有积极影响。一些研究表明，真实或模拟的自然景观可缓解心理和生理压力。园林和绿色环境可在繁忙的医院环境提供一个恢复性逃逸场所；其不仅针对患者，也针对患者亲属和工作人员。此外，观赏自然景色还被证明可减轻疼痛，通过增生积极情绪，可减轻压力并分散患者对疼痛的注意力。

易于导向

设计一个易于纵览查找的医疗设施可显著提高患者的体验；其原因是找不到路的体验只会增加人们置身于陌生医疗环境中所感受的压力和忧虑。在医院中，一个易于纵览和导向的结构被证明可节省时间和资金，尤其可节省工作人员指引迷路到访者所花费的时间。建立一个组织严紧的规划，将相关功能聚集到一起，可减少内部的运动距离，从而节省时间，并被证明可减轻员工压力和员工流失。

舒适的声音环境

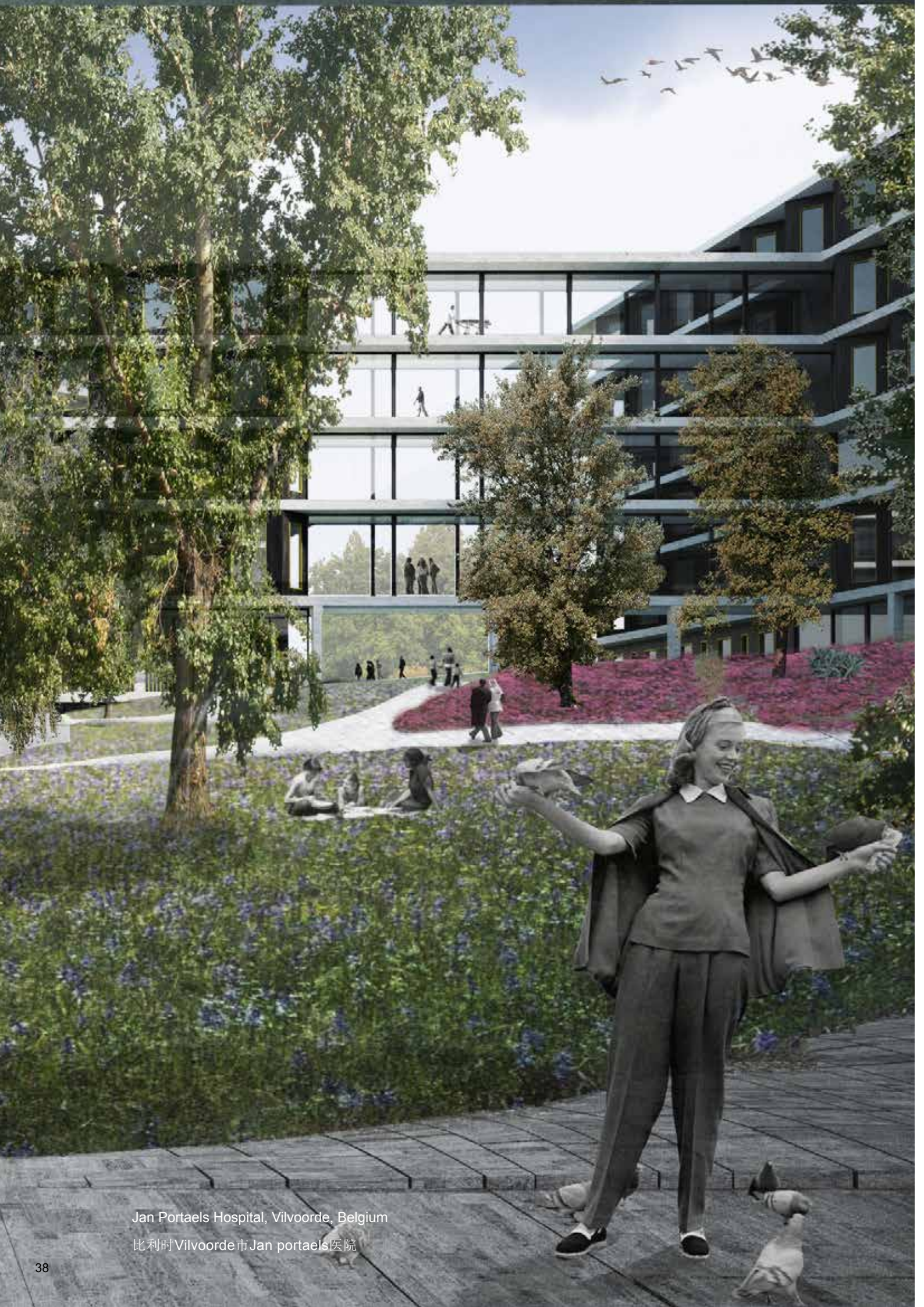
听觉是人类警报系统的组成部分，与视觉器官相反它无法被关闭。因此，令人反感的噪音被证明对人有消极影响，它会带来如受刺激、疲劳、注意力无法集中和低痛阈等心理反应。

室内气候条件

不适宜的室内条件，例如令人不适的高温或低温或空气质量不好，被证明会对工作表现、情绪及身体健康产生负面影响。住院的人对环境条件极为敏感。因此，这是在设计医疗环境时需考虑到的一个重要额外因素。

私人空间

为在患者、亲属和工作人员之间建立信任关系，能提供私人空间被证明十分重要。明确的沟通对疾病和治疗过程有至关重要的作用。有机会住单人房间被证明可保证病人有更好的隐私感。较少受到其他患者的噪音干扰，可确保更好的隐密性并可改善工作人员与患者及亲属之间的沟通。对工作人员来讲，单人房间被认为更适合检查和诊治。此外，因患者之间接触较少且更易进行彻底清洁，单人房间还被证明有较低的住院感染率。



Jan Portaels Hospital, Vilvoorde, Belgium
比利时Vilvoorde市Jan portaels医院

Space for Family and Relatives

The patient's relationship and social interaction with close relatives have proven to play an important role in the survival from a serious disease as well as the recovery and healing. The explanation may be the influence close relatives can have on the behavior of a patient, in terms of maybe eating healthier, exercise more, following doctor's advice and completing the treatment. Having appropriate space for the family is an important design factor, as it has proven to support the recovery of patients, shorten length of stay and improve their experience of stress, anxiety and fear.

Art and Interiors

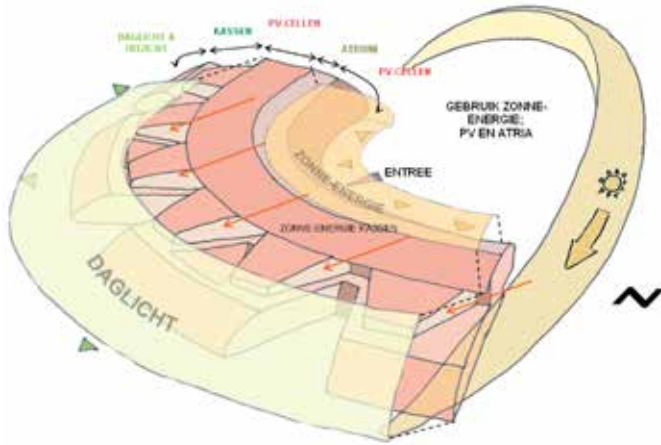
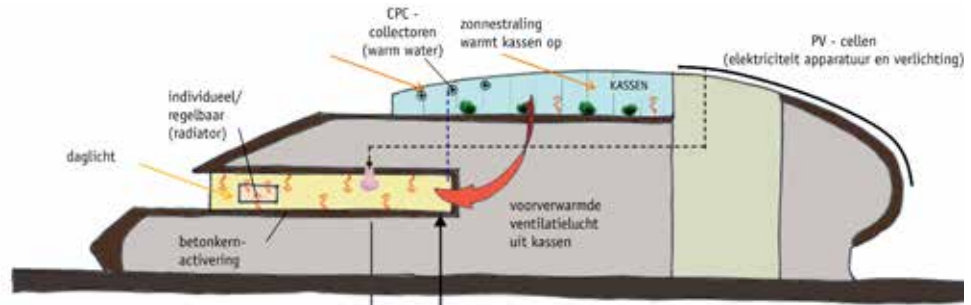
Art and colours can function as positive distractors in relation to painful treatments, but also in relation to general stimulation of the senses and mental distraction, making people feel relaxed and less stressed. Colours and art can moreover be part of an overall way finding system, creating focal points that are easily remembered and recognized.

家庭和亲属空间

患者与其近亲属的关系和社会交往被证明在患者战胜严重疾病及恢复和愈合方面起着重要作用。其可能的解释是近亲属可对病人的行为产生影响，这包括饮食可能更为健康、增加运动量、遵循医嘱并完成治疗过程。提供适合的家庭空间被证明有助于患者康复、缩短住院时间并可改善其紧张、焦虑和恐惧情绪，因此是一个重要的设计因素。

艺术和内饰

艺术和颜色不仅对痛苦的治疗过程，还可对一般性感官刺激和心理分散起到积极的分散作用。它可使人们减轻压力并感到放松。此外，颜色和艺术还可作为全局路线引导系统的一部分，创建易于记忆和识别的标志点。



Competition Healthcampus, Knokke, Belgium

比利时Knokke市竞赛健康园



SUSTAINABILITY

We are proud to state that environmental issues, energy consumption and life cycle cost are basic subjects which go hand in hand when designing. We operate and design according to the principles of People, Planet (environment), Prosperity (profit), interconnected, and in harmony with one another. We aim to make buildings which take into account the local context (climate, ecosystems, historical and cultural) and are able to adapt flexibly (as regards technical and program) to changing circumstances (i.e. future growth). The new hospital campus should add maximum added value in terms of quality, economics and environmental impact for both users and the environment.

According to us, sustainability also promotes exploitation driven design. A sustainable building results in direct profit in the exploitation and in indirect profit in terms of future value. A sustainable hospital, for example, will not only have a more sustainable energy concept but also a so-called healing environment in which patients heal faster. The air quality, the use of light, color and views are all key factors in this. As a result there's is not only a win for the energy bill, but also for the medical processes. Because of our integral approach we are able to use our resources efficiently and effectively and achieve a maximum result.

Below we propose some sustainable examples that could be taken into consideration with regard to environmental sustainability in next stages of the design of the hospital campus.

Energy

The area in which the new hospital campus will be realized is characterized by hot and dry summers and mild, rainy winters. Our approach would be to appreciate these natural resources and benefit from them in creating a healthy and enticing environment. In order to realize a healthy and comfortable hospital campus, passive and active strategies could be applied. The shape, orientation and cladding of the buildings influence the indoor climate and energy usage. High solar radiation can lead to unwanted overheating of buildings, however when shades and louvers are applied, sunlight will enter the building, while the heat is kept out. In that way the benefits of the natural resource are used to its fullest. The same strategy could be applied in landscaping. Planting endemic trees will allow sunlight to heat the environment up in winter, but provide comfortable shading in summer. By applying thermal mass in the buildings, the core temperature remains constant throughout the year.

Water

As water is often scarce in these regions, our proposal would be to introduce a campus-wide water management system of diminishing need, harvesting, re-use of water and filtering of water in landscaped ponds. New water cycles will limit the water footprint of the hospital campus. The need for water can be lowered, by planting of indigenous vegetation, in order to lower the need for irrigation and water efficient fixtures and fittings. For applications with low requirements alternative water solutions are suitable, thereby diminishing the need for potable water.

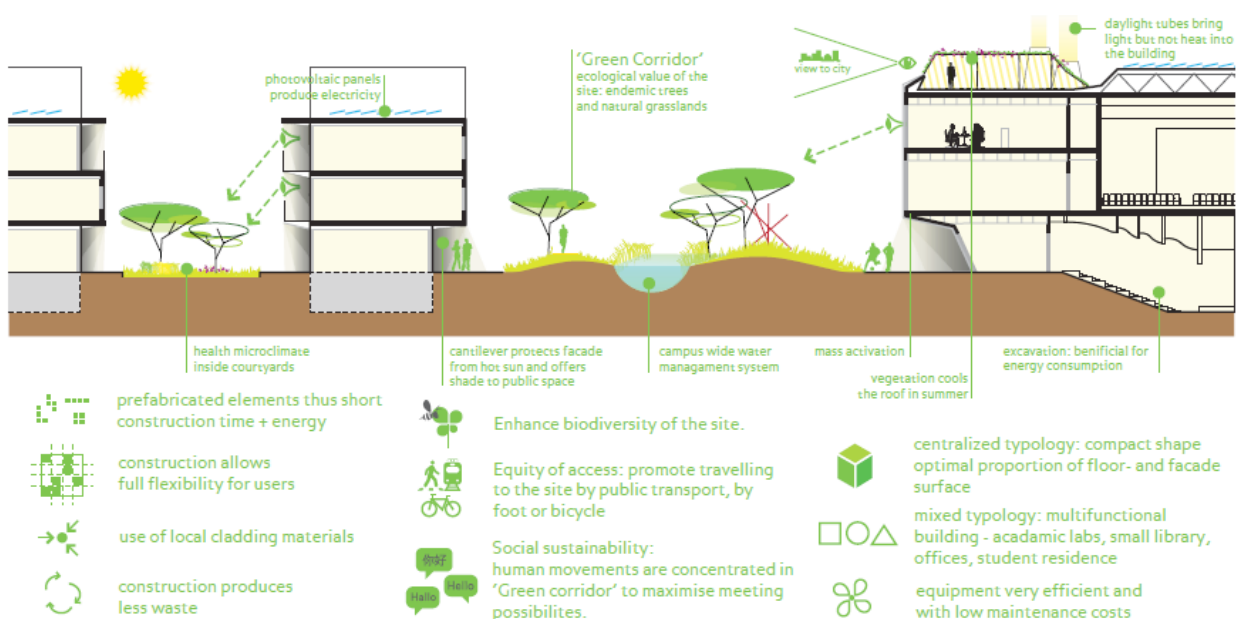
Ecology

To enhance the current ecological value of the land where the hospital campus will developed, we propose to introduce endemic trees and natural plants which promote the increase of biodiversity. All currently environmentally sensitive land features will be protected and incorporated within the master plan. Environmental management plans and monitoring thereof will be part of all construction procedures and activities.

Certification

In order to ensure, control and measure the objectives regarding sustainability, multiple methods are available. The best known examples are LEED and BREEAM. We use all these various certification methods for measuring, but also as a design tool to translate your ambitions into actual sustainability measures. We perform, for example, a quickscan at the beginning of the project to find out how the design is rated compared to the aspirations and what the possibilities are for improvement in respect of location, investment and operation. In addition, the review can serve as a basis for sustainability certification, to obtain financial support from the government. Royal HaskoningDHV is frequently engaged in leading the certifying process for our clients. Within our company there is a team of several experts, who have been involved in multiple large-scale certification projects for clients worldwide. They have experience in all phases of a project: quick-scan/pre-assessment, integration of sustainability in design, contractor training & guidance and submittal. It is important that all certification processes are embedded in the project design and construction organization.

The key to successful implementation of sustainability in a building is an integrative approach. In the early design stage, most degrees of freedom for design choices are available, which makes it possible to focus on measures that are in line with the building philosophy and that bring long-term benefits for the company and the community.



Examples of sustainable solutions for hospital design

医院设计可持续解决方案实例



Deventer Hospital, Deventer, the Netherlands (example of a sustainable design)

荷兰Deventer 市Deventer医院(可持续设计实例)

可持续发展

我们自豪地宣布，在设计时我们将环境问题、能源消耗和使用周期成本作为基本主题来同时考虑。我们依据以人为本、地球(环境)、繁荣(利润)、彼此相联和相互和谐的原则来运营和设计。我们的目标是在建筑过程中充分考虑当地情况(气候、生态系统、历史和文化)，并依据不断变化的情况(即未来增长)做出灵活改变(在技术和方案方面)。新的医院校园应在质量、经济及对环境影响方面为用户和环境提供最大的附加值。

我们认为，可持续发展还提倡以开发利用为主导的设计。一个可持续性建筑的结果是在开发利用方面获得直接利润，在未来价值方面获得间接利润。例如一座可持续性医院，将不仅有更具可持续性的能源概念，还应有可使患者更快痊愈的所谓的康复环境。空气质量、光线应用、色彩和景观在此均是关键因素。其结果是不仅要节省能源支出，还要有利于医疗过程。我们的集成操作法使我们能够实际和高效地利用资源，并获得最佳成果。

以下我们提供一些可持续发展的例子，以作为医院校园设计下阶段在环境可持续性方面的参考。

能源

要建立新医院校园地区的特点是夏季炎热干燥，冬季温和多雨。我们的做法是尊重这些自然资源，通过创建一个健康诱人的环境而从中受益。为创建一个健康、舒适的医院校园，可以应用主动和被动策略。建筑物的外形、朝向和外层会影响室内的气温环境及能源用量。过高的太阳辐射可导致不必要的建筑物升温，然而在应用了遮蔽和百叶窗后，可将阳光引入建筑物，而将热量保持在外。以这种方式，自然资源的优势被最大限度地加以利用。相同的策略还可应用到景观中。种植当地特有的树种可在冬天利用阳光为环境升温，并在夏天提供舒适的阴凉。通过在建筑物内应用热质，可保持核心温度常年不变。

水

因为这些地区经常缺水，我们建议在整个园区范围实行用水递减管理系统，采集和重复利用水源并对风景池塘水进行过滤。新的水循环系统将限制医院校园的用水量。可通过种植原生植被来减少灌溉用水并采用节水设备和配件降低用水量。应用适合的低水耗可替代水源方案，以减少对饮用水的需求。

生态学

为了提高所要开发医院校园土地现有的生态价值，我们建议引进当地特有的树种和天然植物以促进生物多样性的增长。所有目前对环境敏感的地貌将得到保护并被纳入总体规划。环境管理计划和监测将成为所有施工程序和操作的组成部分。

认证

我们拥有多种方法来确保、监控和测量与可持续发展相关的目标。最著名的例子是LEED和BREEAM建筑评估体系。我们使用各种不同的认证体系进行测量，还将其作为一种设计工具，将您的抱负转化为切实可行的可持续发展措施。例如，我们在工程的开始阶段会进行快速扫描，以了解设计与期待值之间的差异，以及是否在位置、投资和运营方面有改进的可能。此外，可将审查作为可持续性认证的基础，以便从政府机构获得财政支持。

皇家HaskoningDHV公司经常参与我们客户认证过程的领导工作。我们公司拥有一个由多名专家组成的团队，他们代表世界各地的客户参与了多个大型认证项目。他们拥有项目所有阶段的操作经验：快速扫描/预评估、将可持续发展融入设计、承包商培训和指导以及提交。将所有认证程序整合入工程设计和施工规划十分重要。

为一座建筑成功实施可持续发展的关键在于采用整合性方法。在设计最初阶段，设计选择的自由度最大，可将与建筑理念相一致的措施作为重点，这将为公司和社团带来长远利益。



Erasmus Medical Centre
Rotterdam, the Netherlands
荷兰鹿特丹 Erasmus医疗中心





Groot Klimmendaal Rehabilitation Centre, Arnhem, the Netherlands

荷兰Arnhem市Groot Klimmendaal康复中心

REFERENCE PROJECTS

参考工程



ERASMUS MEDICAL CENTER

Architect	DHA • EGM
Location	Rotterdam
Size	473 beds
Principal	Erasmus Medical Center
Planning period	2004 - 2017
Gross floor area	203,000 m²
Investment costs	approx. € 1,2 billion excl. VAT
Operating rooms	21, including 1 brachy OR
CT/MRI scanners	10 CT, 9 MRI
Radiotherapy bunker	12
Labs & classification	15,000 m² various labs, class. ML-I, ML-II en ML-III
Pharmacy	external production pharmacy A15 Gorinchem

ERASMUS医疗中心

建筑设计	DHA • EGM
地点	鹿特丹
规模	473床位
委托方	Erasmus医疗中心
项目周期	2004 - 2017
总建筑面积	203,000平方米
投资额	大约12亿欧元（不含增值税）
手术室	21个，包括1个brachy手术室 OR
CT/MRI扫描仪	10台CT，9台MRI
放疗掩体	12
实验室及分类	15,000平方米不同实验室，类型ML-I, ML-II和ML-III
药房	外部A15制药机构Gorinchem







DEVENTER HOSPITAL

Architect	DHA • dJGA
Location	Deventer
Size	377 beds
Principal	Deventer Hospital
Planning period	2000 - 2008
Gross floor area	82,350 m²
Investment costs	€ 117,580,352 excl. VAT
Operating rooms	10 + 2
CT/MRI scanners	2 CT , 2 MRI, PETCT
Radiotherapy bunker	5
Labs & classification	4,000 m² class. D
Pharmacy	yes

DEVENTER 医院

建筑设计	DHA • DJGA
地点	DEVENTER
规模	377床位
委托方	DEVENTER医院
项目周期	2000 - 2008
总建筑面积	82,350平方米
投资额	117,580,352欧元 (不含增值税)
手术室	10 + 2
CT/MRI扫描仪	2台CT, 2台MRI, PETCT
放疗掩体	5
实验室及分类	4,000平方米, 类型D
药房	有

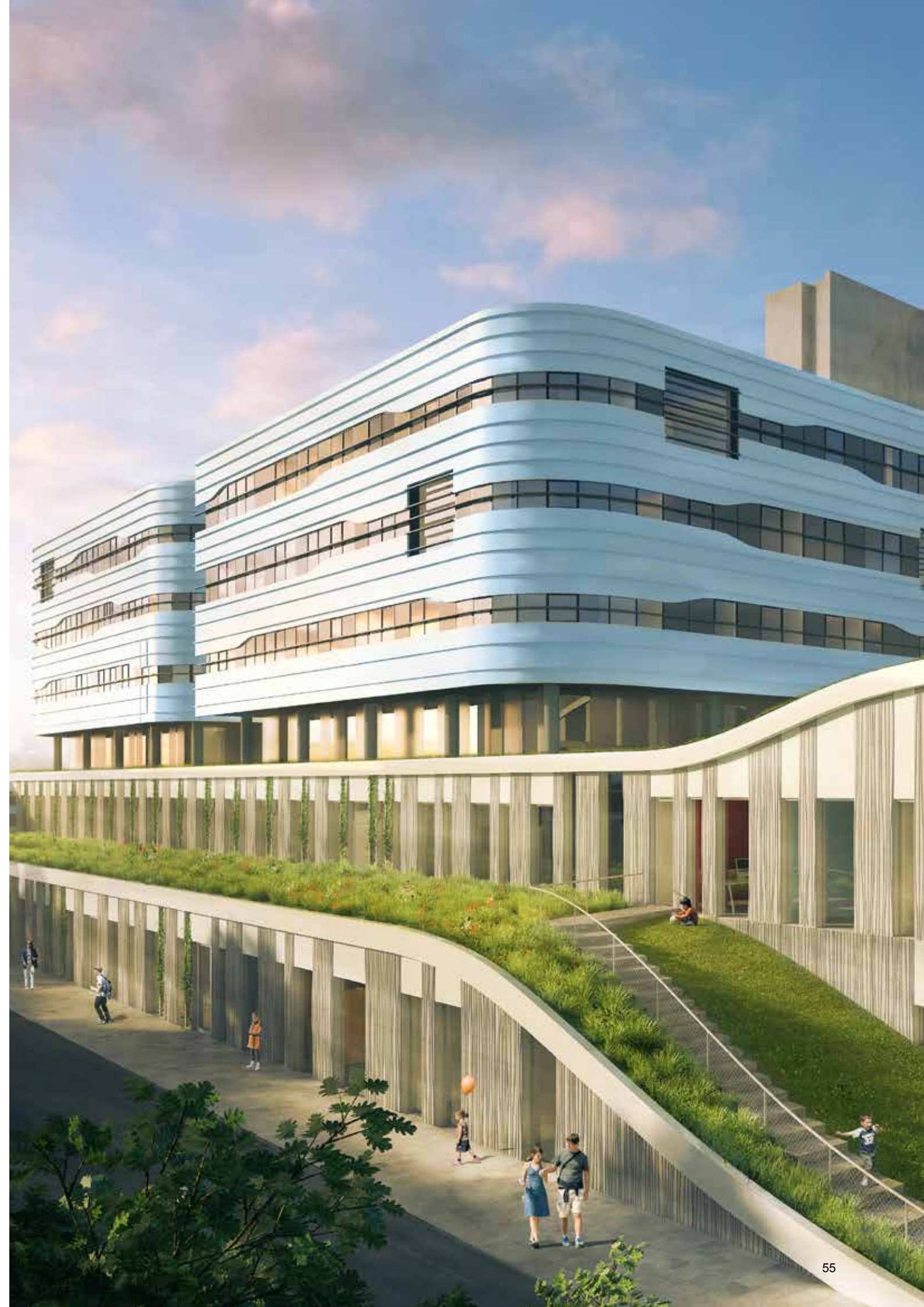
GHENT UNIVERSITY PEDIATRIC HOSPITAL

Architect	DHA • dJGA
Location	Ghent, Belgium
Size	104 beds
Principal	Ghent Academic Hospital
Planning period	2007 - 2011
Gross floor area	16,000 m²
Investment costs	€ 29,000,000 excl. VAT
Operating rooms	4
CT/MRI scanners	2 CT, 1 MRI

根特大学儿科医院

建筑设计	DHA • DJGA
地点	比利时根特市
规模	104床位
委托方	根特大学医院
项目周期	2007 - 2011
总建筑面积	16,000平方米
投资额	29,000,000欧元 (不含增值税)
手术室	4
CT/MRI扫描仪	2台CT, 1台MRI





ZIEKENHUIS
Antonius





SINT ANTONIUS HOSPITAL

Architect	DHA • dJGA
Location	Utrecht
Size	220 beds
Principal	Sint Antonius Hospital
Planning period	2007 - 2012
Gross floor area	56,220 m²
Investment costs	€ 84,709,530 excl. VAT
Operating rooms	10
CT/MRI scanners	2 CT, 2 MRI
Labs & classification	clinical chemical and microbiological
Pharmacy	yes, class. B

SINT ANTONIUS医院

建筑设计	DHA • DJGA
地点	乌特勒支
规模	220床位
委托方	SINT ANTONIUS医院
项目周期	2007 - 2012
总建筑面积	56,220 M²
投资额	84,709,530欧元 (不含增值税)
手术室	10
CT/MRI扫描仪	2台CT, 2台MRI
实验室及分类	临床化学和微生物
药房	有, B类

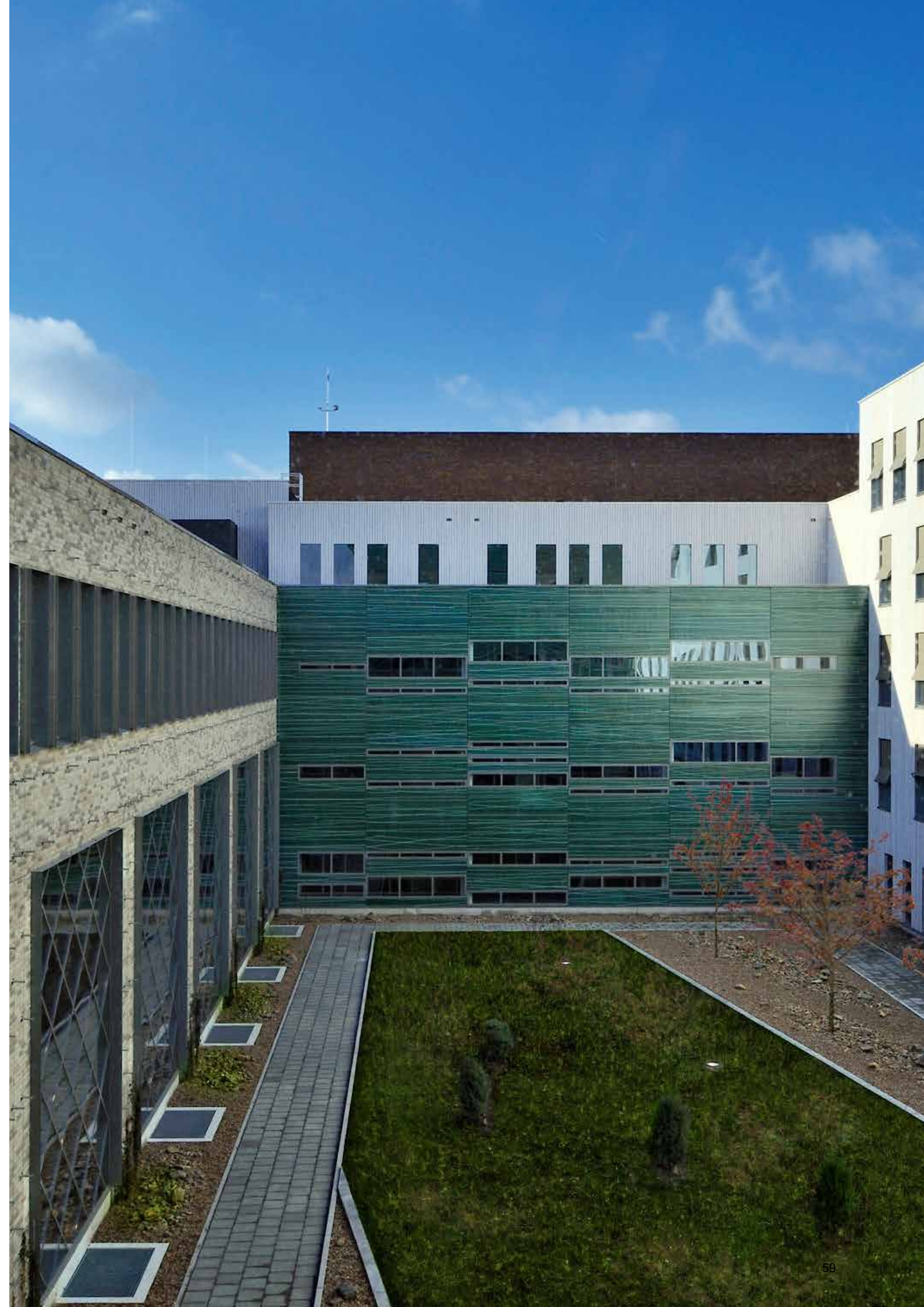
BERNHOVEN HOSPITAL

Architect	DHA • DJGA
Location	Uden
Size	350 beds
Principal	Bernhoven Hospital
Planning period	2007 - 2012
Gross floor area	56,335 m²
Investment costs	€ 101,200,000 excl. VAT
Operating theater	8
CT/MRI scanners	2 CT, 2 MRI
Labs & classification	classification D
Pharmacy	yes

BERNHOVEN医院

建筑设计	DHA • DJGA
地点	Uden
规模	350床位
委托方	Bernhoven医院
项目周期	2007 - 2012
总建筑面积	56,335平方米
投资额	101,200,000欧元（不含增值税）
手术室	8
CT/MRI扫描仪	2台CT, 2台MRI
实验室及分类	类型D
药房	有







RADBOUDUMC MEDICAL FACULTY

Architect	DHA • EGM
Location	Nijmegen
Size	485 beds
Principal	UMC St. Radboud
Planning period	1996 - to date
Gross floor area	128,500 m² (multiple buildings, new renovation, redevelopment)
Investment costs	€ 255,960,000 excl. VAT
Operating rooms	25
CT/MRI scanners	3 CT, 5 MRI, 2 PET-CT
Labs & classification	Hotlab GMP C + Radionuclear B Approx. 20 labs classification B and C, biological organism 2 and 3 Medical microbiology Clinical genetics GMP, electron microscopy, VMT and C1 and 2 Specialized bloodbank facilities
Pharmacy	Yes
Particulars	Staff building and dialysis unit with 30 places Helipad, ER, 4 gamma camera Children's hospital, children's IC, obstetrics, neonatology Underground car parking (3 levels) with approx. 600 parking spaces

RADBOUDUMC医学院

建筑设计	DHA • EGM
地点	Nijmegen
规模	485床位
委托方	UMC St. Radboud
项目周期	1996 – 至今
总建筑面积	128,500平方米(多用途大楼, 新翻修, 重新开发)
投资额	255,960,000欧元 (不含增值税)
手术室	25
CT/MRI扫描仪	3台CT, 5台MRI, 2台PET-CT
实验室及分类	热实验室GMP C +核放射B 大约20个实验室, 类型B和C, 生物有机体2和3, 医学微生物学 临床遗传学 GMP, 电子显微镜, VMT和C1和2 专门血库设施
药房	有
特性	员工楼和30个位置的透析科室 直升机停机坪, 急诊室, 4伽玛相机 儿童医院, 儿童IC, 产科, 新生儿科 地下停车场 (3层) 约600个停车位

JEROEN BOSCH HOSPITAL

Architect	DHA • EGM
Location	's-Hertogenbosch
Size	730 beds, including 26 IC, 27 cardiac care and 36 rehabilitation center
Principal	Jeroen Bosch Hospital
Planning period	2003 - 2011
Gross floor area	116,000 m²
Investment costs	€ 403,500,000 excl. VAT
Operating rooms	16 include 1 hybrid OR
CT/MRI scanners	2 PET-CT, 3 MRI, 1 3Tesla, 2 1.5 Tesla, several CT and bucky
Radiotherapy bunker	2 at Verbeeten Institute
Labs & classification	Classification ML1, ML2, ML3 Hotlab, isotope lab nuclear medicine GMP classification D, RN Classification B Labstreet clinical chemistry lab (Vista by Siemens) BSL III lab for medical microbiology medical microbiology lab ML II Pathological lab
Pharmacy	Production pharmacy



JEROEN BOSCH医院

建筑设计	DHA • EGM
地点	's-Hertogenbosch
规模	730床位，包括26 IC, 27心脏监护和36康复中心
委托方	Jeroen Bosch医院
项目周期	2003 - 2011
总建筑面积	116,000平方米
投资额	403,500,000欧元（不含增值税）
手术室	16个，包括1个复合一体化手术室
CT/MRI扫描仪	2台PET-CT, 3台MRI, 1台3Tesla, 2台1.5 Tesla, 多台CT和bucky
放疗掩体	2个在Verbeeten学院
实验室及分类	类型ML1, ML2, ML3 热实验室, 同位素实验室, 核医学GMP类型D, RN 类型B Labstreet临床化学实验室（西门子VISTA） BSL III 医学微生物学实验室 医学微生物学病理实验室ML II 病理实验室
药房	制药房







DUTCH CANCER INSTITUTE

Architect	DHA • dJGA
Location	Amsterdam
Size	108 beds
Principal	Dutch Cancer Institute
Planning period	1999 - 2006
Gross floor area	87,000 m²
Investment costs	€ 124,000,000 excl. VAT
Operating rooms	16
CT/MRI scanners	MRI OR, mice MRI/CT, 10 electa MRI 2CT PET CT Gamma camera, 2 C1, 2 C2, B lab
Radiotherapy bunker	10
Labs & classification	4,000 m² C1, C2, B, clinical lab
Pharmacy	3 pharmacies including 1 Cytotox pharmacy

荷兰肿瘤研究所

建筑设计	DHA • dJGA
地点	阿姆斯特丹
规模	108床位
委托方	荷兰肿瘤研究所
项目周期	1999 - 2006
总建筑面积	87,000平方米
投资额	124,000,000欧元（不含增值税）
手术室	16
CT/MRI扫描仪	MRI OR, MICE MRI/CT, 10台ELECTA MRI 2台CT PET CT伽玛相机, 2 C1, 2 C2, B LAB
放疗掩体	10
实验室及分类	4,000平方米 C1, C2, B, 临床实验室
药房	3个药房包括1个化疗药房

YUNNAN BAIYAO NEW SITE

Architect	Century 3
Location	Kunming City, China
Principal	Yunnan Baiyao Group Co., Ltd
Planning period	2008 - 2009
Gross floor area	28,000 m ²
Main functions	high level management office area VIP canteen and kitchen conference room open office area lobby museum studio infomation center, filing room underground garage, other function room and equipment room



云南白药集团

建筑设计

地点

委托方

项目周期

总建筑面积

主要职能

Century 3

昆明市，中国

云南白药集团有限公司

2008 - 2009

28,000平方米

高管办公区

VIP餐厅、厨房

会议室

开放办公区

大堂

博物馆

演播厅

信息中心、档案馆

地下停车库，及其它功能间和设备间



JAN PORTAELS HOSPITAL

Architect	DHA • dJGA
Location	Vilvoorde, Belgium
Size	400 beds
Principal	AZ Jan Portaels Hospital
Planning period	2012 - 2018
Gross floor area	45,000 m²
Investment costs	€ 119,600,500 excl. VAT
Operating rooms	7
CT/MRI scanners	2 CT, 2 MRI
Labs & classification	Clinical biology and pathological anatomy
Pharmacy	Yes, classification B

JAN PORTAELS 医院

建筑设计	DHA • dJGA
地点	比利时Vilvoorde
规模	400 beds
委托方	AZ Jan Portaels 医院
项目周期	2012 - 2018
总建筑面积	45,000平方米
投资额	119,600,500欧元（不含增值税）
手术室	7个
CT/MRI扫描仪	2台CT, 2台MRI
实验室及分类	临床生物学和病理解剖
药房	有, 类型B









HOSPITAL REINIER DE GRAAF GASTHUIS

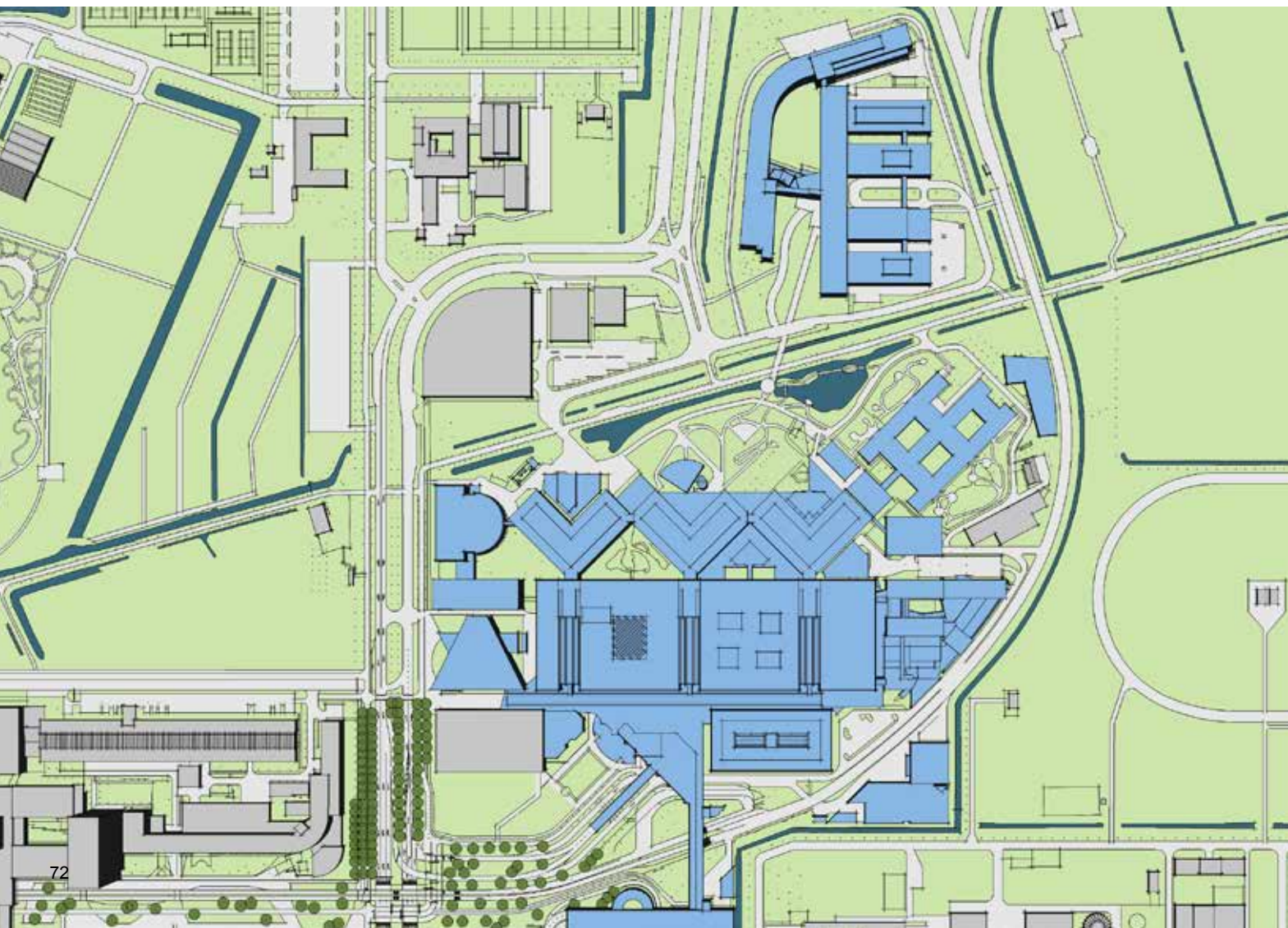
Architect	DHA • EGM
Location	Delft
Size	470 beds
Principal	Reinier de Graaf Groep
Planning period	2010 - to date
Gross floor area	57,000 m²
Investment costs	€ 150,000,000 excl. VAT
Operating rooms	6
CT/MRI scanners	4 CT, 3 MRI
Radiotherapy bunker	2
Labs & classification	Hotlab
Pharmacy	24/7
Particulars	Hydrofer, pharma filter (medical waste through Tonto's)

REINIER DE GRAAF GASTHUIS 医院

建筑设计	DHA • EGM
地点	Delft
规模	470床位
委托方	Reinier de Graaf集团
项目周期	2010 – 至今
总建筑面积	57,000平方米
投资额	150,000,000欧元 (不含增值税)
手术室	6
CT/MRI扫描仪	4台CT, 3台MRI
放疗掩体	2
实验室及分类	热实验室
药房	24/7
特性	Hydrofer, 药物过滤器 (医疗废物通过Tonto's处理)

UNIVERSITY MEDICAL CENTER UTRECHT

Architect	DHA • EGM
Location	Utrecht
Size	783 beds
Principal	various clients
Planning period	1986 - to date
Gross floor area	271,300 m²
Investment costs	Multiple buildings (new and renovated) over de last 3 decades
Operating rooms	29
Coronary Cath.	4
CT/MRI scanners	5 CT, 7 MRI
Radiotherapy bunker	14
Labs & classification	Approx. 13,000m² research and clinical lab Microbiology, pathology, isotope, hematology class. L1, L2 , L3
Pharmacy	Approx. 3,750m² production pharmacy (GMP standards)



乌特勒支大学医疗中心

建筑设计	DHA • EGM
地点	乌特勒支
规模	783床位
委托方	不同客户
项目周期	1986 – 至今
总建筑面积	271,300平方米
投资额	多功能楼（新建和维修）在过去 30年
手术室	29
心导管插入实验室	4
CT/MRI扫描仪	5台CT, 7台MRI
放疗掩体	14
实验室及分类	大约 13,000 平方米研究和临床实验室 微生物学，病理学，同位素，血液学 类型 L1, L2, L3
药房	大约 3,750 平方米制药房（ GMP 标准）







UZ LEUVEN UNIVERSITY HOSPITAL

Architect	DHA • dJGA
Location	Leuven, Belgium
Size	223 beds
Principal	UH Leuven
Planning period	2005 - 2013
Gross floor area	31,000 m²
Investment costs	€ 67,000,000 excl. VAT
Operating rooms	10
CT/MRI scanners	1 CT

鲁汶大学附属医院

建筑设计	DHA • dJGA
地点	比利时鲁汶市
规模	223床位
委托方	鲁汶大学附属医院
项目周期	2005 - 2013
总建筑面积	31,000平方米
投资额	67,000,000欧元 (不含增值税)
手术室	10
CT/MRI扫描仪	1台CT

PHARMACY A15

Architect	DHA • EGM
Location	Gorinchem
Principal	Erasmus Medical Centre, Rotterdam
Planning period	2011 - 2013
Gross floor area	4,500 m²
Investment costs	€ 20,330,000 excl. VAT
Labs & classification	Lab and GMP rooms class. B, C en D
Pharmacy	central production pharmacy

A15制药机构

建筑设计	DHA • EGM
地点	Gorinchem
委托方	鹿特丹Erasmus医疗中心
项目周期	2011 - 2013
总建筑面积	4,500平方米
投资额	20,330,000欧元（不含增值税）
实验室及分类	实验室和GMP间类型B, C和D
药房	中央制药房









HONLIV HOSPITAL CANCER CENTER

Architect	DHA • EGM dJGA
Location	Changyuan, China
Size	500 beds
Principal	Honliv Hospital
Planning period	2012 - 2014
Gross floor area	65,350 m²
Investment costs	€ 135,000,000 excl. VAT
Operating rooms	16
CT/MRI scanners	3 CT, 2 MRI
Radiotherapy bunker	5
Labs & classification	15 class. 5

宏力医院肿瘤中心

建筑设计	DHA • EGM dJGA
地点	中国河南省长垣县
规模	500床位
委托方	宏力医院
项目周期	2012 - 2014
总建筑面积	65,350平方米
投资额	135,000,000欧元 (不含增值税)
手术室	16
CT/MRI扫描仪	3台CT, 2台MRI
放疗掩体	5
实验室及分类	15个类型5

WANICA MEDICAL CENTER

Architect	DUTCH HEALTH ARCHITECTS
Location	Wanica, Suriname
Size	300 beds -> 350 beds
Principal	Ministry of Public Health
Planning period	2012 - 2016
Gross floor area	40,000 m² -> 41,000 m²
Investment costs	€ 80,000,000 excl. VAT
CT/MRI scanners	CT/MRI/Angio
Labs & classification	Class ML-I and II, Radionuclide labs class B and C

WANICA瓦尼卡医院

建筑设计	荷兰医疗建筑公司 (DHA)
地点	苏里南瓦尼卡
规模	300 床位 -> 350 床位
委托方	公共卫生部
项目周期	2012年 - 2016年
总建筑面积	40,000 m² -> 41,000 m²
投资额	80,000,000欧元, 不含增值税
CT/MRI扫描仪	CT/MRI/Angio
实验室及分类	类型ML-I 和II, 放射性核素实验室类型B和C









AALBORG UNIVERSITY HOSPITAL

Architect	Schmidt Hammer Lassen Architects,
Location	Aalborg, Denmark
Principal	Region Nordjylland
Planning period	2012 - 2020
Gross floor area	330,000 m
Investment costs	€ 450,000,000 excl. VAT
Operating rooms	20
CT/MRI scanners	6
Radiotherapy bunker	4
Labs & classification	30,000 m², all type of labs
Services	Building Services, structural Design.

奥尔堡大学医院

建筑设计	丹麦SHL建筑师事务所 (Schmidt Hammer Lassen Architects)
地点	丹麦奥尔堡
委托方	北日德兰大区
项目周期	2012年 - 2020年
总建筑面积	330,000 m ²
投资额	450,000,000欧元, 不含增值税
手术室	20
CT/MRI扫描仪	6
放射掩体	4
实验室及分类	30,000 m ² , 各类型实验室
服务项目	建筑设备、结构设计

GELRE HOSPITAL

Architect	Royal HaskoningDHV
Location	Zutphen, The Netherlands
Size	320 beds -> 220 beds
Principal	Gelre Ziekenhuizen
Planning period	2006 -2010
Gross floor area	30,000 m² -> 28.000 m²
Investment costs	€ 60,000,000 excl. VAT
Operating rooms	6
CT/MRI scanners	1 CT/1 MRI/ 1 Angio
Labs & classification	PA-Lab class ML-I + Pharmacy
Services	Architecture & Construction, Budget- and building cost management, Structural Design and Structural Engineering, Building services, Infrastructure,Permits, Landscape architecture & Spatial Development, Project management



GELRE医院

建筑设计

皇家HaskoningDHV公司

地点

荷兰聚特芬市 nds

规模

320 床位 -> 220 床位

委托方

Gelre Ziekenhuizen

项目周期

2006年 -2010年

总建筑面积

30,000 m² -> 28,000 m²

投资额

60,000,000欧元, 不含增值税

手术室:

6

CT/MRI扫描仪

1 台CT/1 台MRI/ 1 台Angio

实验室及分类

PA-Lab, 类型ML-I + 药房

服务项目:

建筑施工、预算和建筑成本管理、结构设计和结构工程、建筑设备、基础设施、许可证书、园林建筑与空间发展、项目管理。



PRINCESS MÁXIMA CENTER FOR PEDIATRIC ONCOLOGY

Architect	LIAG Architecten
Location	Utrecht, the Netherlands
Size	300 beds -> 90 beds
Principal	Princess Máxima Center
Planning period	2011 - 2015
Gross floor area	50,000 m² -> 40,000 m²
Investment costs	€ 88.000.000 excl. VAT
Operating rooms	2
CT/MRI scanners	SPECT/CT + PET/CT + 2x MRI
Radiotherapy bunker	2 Bunkers
Labs & classification	ML-I: virus and bacteriological labs ML-II: culture labs, drugs screening
Services	Radionuclidelabs class C Cytolabs Laserdessection RTQ-PCR Amino/protein labs Cryogene lab Building Services, Building Physics and Accoustics, Fire engineering



PRINCESS MÁXIMA 儿童肿瘤中心

建筑设计	LIAG Architecten
地点	荷兰乌得勒支
规模	300 床位 -> 90 床位
委托方	Princes Máxima Center
项目周期	2011 - 2015
总建筑面积	50,000 m ² -> 40,000 m ²
投资额	88,000.000 欧元, 不含增值税
手术室	2
CT/MRI 扫描仪	SPECT/CT + PET/CT + 2台 MRI
放疗掩体	2
实验室及分类	类型ML-I: virus and bacteriological labs 类型ML-II: culture labs, drugsscreening 放射性核素实验室类型C 细胞实验室 激光解剖 RTQ-PCR 氨基酸和蛋白质实验室 Cryogene 实验室
服务项目	建筑设备、建筑物理和建筑声学、消防工程



ORBIS MEDICAL CENTER

Architect	Bonnema Architecten
Location	Sittard, Netherlands
Size	400 beds
Principal	Orbis Medisch Zorg Concern
Planning period	2002 - 2008
Gross floor area	70,000 m² (total complex is 120,000 m²)
Investment costs	€ 125,000,000 excl. VAT
Operating rooms	8
CT/MRI scanners	Yes
Radiotherapy bunker	NO
Labs & classification	Clinical/Chemical/Hemiatology Labs, Pathological Labs, Micro Biological Labs

ORBIS 奥比斯眼科飞行医院

建筑设计	Bonnema Architecten
地点	荷兰斯塔德市
规模	400 床位
委托方	Orbis Medisch Zorg Concern
项目周期	2002 - 2008
总建筑面积	70,000 m² (总体面积 120,000 m²)
投资额	125,000,000 欧元, 不含增值税
手术室	8
CT/MRI 扫描仪	有
放疗掩体	无
实验室及分类	临床/化学/血液实验室、病理实验室、微生物实验室



DUTCH HEALTH ARCHITECTS

Ikazia Ziekenhuis, Rotterdam, the Netherlands	NKI/AVL Hospital, Amsterdam, the Netherlands
Erasmus Medical Centre, Rotterdam, the Netherlands	K.U.Z. Leuven (Gasthuisberg), Belgium
Maria Middelaere General Hospital, Ghent, Belgium	Deventer Hospital, the Netherlands
VU Hospital Research & Diagnostics, Amsterdam, the Netherlands	Hospital Bernhoven, Uden, the Netherlands
Albert Schweitzer Hospital, Dordrecht, the Netherlands	Hospital Bethesda, Hoogeveen, the Netherlands
Tony Moleapaza Rojas Children's Hospital, Arequipa, Peru	Atrium Medical Center, Heerlen, the Netherlands
Dr Verbeeten Institute Radiotherapy, Den Bosch, the Netherlands	St Antonius Hospital, Nieuwegein, the Netherlands
Medimall MCRZ, Rotterdam, the Netherlands	St Antonius Hospital, Utrecht, the Netherlands
UMC St Radboud Hospital, Nijmegen, the Netherlands	Foundation ZorgSaam Zeeuws-Vlaanderen, De Honte, the Netherlands
Jeroen Bosch Hospital, Den Bosch, the Netherlands	Sint Fransiscus Gasthuis, Rotterdam, the Netherlands
Reinier de Graaf Hospital, Delft, the Netherlands	IJsselland Hospital, Capelle a/d IJssel, the Netherlands
Vlietland Hospital, Schiedam, the Netherlands	Harbour Hospital en Institute for Tropical diseases, Rotterdam, the Netherlands
Groene Hart Hospital, Gouda, the Netherlands	Diakonessenhome, Utrecht, the Netherlands
Ronald McDonald House, Rotterdam, the Netherlands	Maxima Medical Center, Veldhoven, the Netherlands
Rijnland Hospital, Leiderdorp, the Netherlands	Hospital Maas en Kempen, Maaseik, Belgium
Kennemer Gasthuis Hospital, Haarlem, the Netherlands	Westfries Gasthuis, Hoorn, the Netherlands
LUMC Education Building, Leiden, the Netherlands	Hospital Rivierenland, Tiel, the Netherlands
Sanquin Blood Bank, Nijmegen, the Netherlands	Canisius-Wilhelmina Hospital, Nijmegen, the Netherlands
Onze Lieve Vrouwe Hospital, Amsterdam, the Netherlands	Hospital Nobo, Curacao
Juliana Children's Hospital, The Hague, the Netherlands	Altrecht Mental Healthcare Barentsz, the Netherlands
Wilhelmina Children's Hospital, Amsterdam, the Netherlands	Hospital Koningin Beatrix GGNet Brengwal, the Netherlands
UMC Utrecht Hospital / AZU Hospital, Utrecht, the Netherlands	Forensic Psychiatric Center, Ghent Belgium
St Maarten Medical Centre, Philipsburg, St Maarten	FPI de Rooyse Wissel, Oostrum, the Netherlands
Dr. Horatio E. Oduber Hospital, Oranjestad, Aruba	Foundation Rivierduinen, the Netherlands
Jakarta Children's Hospital, Jakarta, Indonesia	De Grote Rivieren, Volgerlanden, the Netherlands
Ghent University Medical Research Building, Ghent, Belgium	Bavo Europort de Fjord, the Netherlands
ZNA North, Antwerpen, Belgium	Transferium Youthcare, Heerhugowaard, the Netherlands
Tanger Children's Hospital, Tanger, Marocco	High Care, Oegstgeest, the Netherlands
University Hospital Ghent K12, Belgium	

荷兰医疗建筑公司

- 荷兰鹿特丹Ikazia医院
- 荷兰鹿特丹Erasmus医疗中心
- 比利时根特Maria Middelaeres综合医院
- 荷兰阿姆斯特丹自由大学医院研究和诊断
- 荷兰Dordrecht市Albert Schweitzer医院
- 秘鲁Arequipa市Tony Moleapaza Rojas儿童医院
- 荷兰Den Bosch Dr Verbeeten放疗研究所
- 荷兰鹿特丹Medimall MCRZ
- 荷兰Nijmegen市UMC St Radboud医院
- 荷兰Den Bosch市Jeroen Bosch医院
- 荷兰Delft市Reinier de Graaf医院
- 荷兰Schiedam市Vlietland医院
- 荷兰Gouda市Groene Hart医院
- 荷兰鹿特丹Ronald McDonald House
- 荷兰leiderdorp市Rijnland医院
- 荷兰Haarlem市Kennemer Gasthuis医院
- 荷兰莱顿市LUMC教育大楼
- 荷兰Nijmegen市Sanquin血库
- 荷兰阿姆斯特丹Onze lieve Vrouwe医院
- 荷兰海牙Juliana儿童医院
- 荷兰阿姆斯特丹Wilhelmina儿童医院
- 荷兰乌特勒支市UMC Utrecht医院/ AZU医院
- 荷兰属圣马丁岛菲利普斯堡St Maarten医疗中心
- 荷兰属阿鲁巴Oranjestad Dr. Horatio E. Oduber医院
- 印度尼西亚雅加达儿童医院
- 比利时根特大学医疗研究楼
- 比利时安特卫普ZNA北部医院
- 摩洛哥Tanger儿童医院
- 比利时根特大学医院K12
- 荷兰阿姆斯特丹NKI/AVL医院
- 比利时鲁汶K.U.Z.医院(Gasthuisberg)
- 荷兰比利时Deventer医院
- 荷兰Uden市Bernhoven医院
- 荷兰Hoogeveen市Bethesda医院
- 荷兰Heerlen市Atrium医疗中心
- 荷兰Nieuwegein市St Antonius医院
- 荷兰乌特勒支市St Antonius医院
- 荷兰De Honte市ZorgSaam Zeeuws-Vlaanderen基金会
- 荷兰鹿特丹Sint Franciscus Gasthuis
- 荷兰Capelle a/d IJssel市IJsselland医院
- 荷兰鹿特丹港口医院及热带病研究所
- 荷兰乌特勒支市Diakonessenhome
- 荷兰Veldhoven市Maxima医疗中心
- 比利时Maaseik市Maas en Kempen医院
- 荷兰Hoon市Westfries Gasthuis
- 荷兰Tiel市Rivierenland医院
- 荷兰Nijmegen市Canisius-Wilhelmina医院
- 库拉索Nobo医院
- 荷兰Barentsz Altrecht心理保健机构
- 荷兰Koningin Beatrix GGNet Brengwal医院
- 比利时根特法医精神病中心
- 荷兰Oostrum市FPI de Rooyse Wissel
- 荷兰Rivierduinen基金会
- 荷兰Volgerlanden De Grote Rivieren
- 荷兰Bavo Europoort de Fjord
- 荷兰Heerhugowaard市Transferium青少年护理机构
- 荷兰Oegstgeest市High Care

ROYAL HASKONINGDHV

Medisch Centrum Alkmaar, Alkmaar, the Netherlands	Eco Medical and Health City, Dongtan, China
Hospital Group Twente, Almelo, the Netherlands	Ramathibodi Hospital, Bangkok, Thailand
Flevo Hospital, Almere, the Netherlands	Chula Private Hospital, Bangkok, Thailand
VU University Hospital, Amsterdam, the Netherlands	Hospital Urology & Nephrology University, Mansoura, Egypt
Hospital Rijnstate, Arnhem, the Netherlands	4 New Hospitals and 16 Regional Treatment Centres, Bangladesh
Gemini Hospital, Den Helder, the Netherlands	Teaching Hospital, Tamale, Ghana
Slingeland Hospital, Doetinchem, the Netherlands	Fundashon Mariadal Cure Facilities, Bonaire, Dutch Antilles
Medical Spectrum Twente, Enschede, the Netherlands	Onze Lieve Vrouwe Gasthuis, Amsterdam, the Netherlands
Martini Hospital, Groningen, the Netherlands	Isala Clinics, Zwolle, the Netherlands
University Hospital, Groningen, the Netherlands	Amphia hospital, Breda, the Netherlands
Kennemer Gasthuis Hospital, Haarlem, the Netherlands	Stratenum University Medical Centre, Utrecht, the Netherlands
Medical Center, Leeuwarden, the Netherlands	Eye hospital, Rotterdam, the Netherlands
University Hospital, Maastricht, the Netherlands	Tergooi hospitals, Hilversum, the Netherlands
Canisius-Wilhelmina Hospital, Nijmegen, the Netherlands	Military Hospital, South Africa
St. Laurentius Hospital, Roermond, the Netherlands	Empangeni Hospital and Ngwelezane Hospital, KwaZulu- Natal, S-A
Maasstad Hospital, Rotterdam, the Netherlands	Flora Clinic, Gauteng, South Africa
Erasmus University Hospital, Rotterdam, the Netherlands	LCM Hospital, South Africa
Maasland Hospital / ORBIS, Sittard, the Netherlands	Hospital, Mamalodi, South Africa
Hospital Bernhoven, Uden, the Netherlands	Rob Ferreira Hospital, Mpumalanga, South Africa
University Hospital, Utrecht, the Netherlands	Atrium Hospital, Heerlen, The Netherlands
St. Jansgasthuis Hospital, Weert, the Netherlands	Wilhelmina Hospital, Assen, The Netherlands
Honliv-Cancer Hospital, Changyuan, China	Diaconessen Hospital, Leiden, The Netherlands
University Hospital, Aalborg, Denmark	St Helier Hospital, Wrythe Lane, Carshalton, United Kingdom
St. Jansdal Hospital, Harderwijk, the Netherlands	Health Centre Lambton Road, Merton. United Kingdom
St. Maartenskliniek, Nijmegen, the Netherlands	Royal National Orthopaedic Hospital, United Kingdom
Diaconessenhuis, Meppel, the Netherlands	University Hospitals Coventry and Warwick, United Kingdom
Admiraal de Ruyter Ziekenhuis, Vlissingen, the Netherlands	
Gelre ziekenhuizen, Zutphen, the Netherlands	
Roosendaal Hospital, Roosendaal, the Netherlands	

皇家HASKONINGDHV公司

荷兰Alkmaar市 Alkmaar医疗中心

荷兰Almelo市Group Twente医院

荷兰Almere市Flevo医院

荷兰阿姆斯特丹市自由大学附属医院

荷兰Arnhem市Rijnstate医院

荷兰Den Helder市Gemini医院

荷兰Doetinchem市Slingeland医院

荷兰Enschede市Medical Spectrum Twente医院

荷兰Groningen市Martini医院

荷兰Groningen大学医院

荷兰Haarlem市Kennemer Gasthuis医院

荷兰Leeuwarden市医疗中心

荷兰Maastricht大学医院

荷兰Nijmegen市Canisius-Wilhelmina医院

荷兰Roermond市St. laurentius医院

荷兰鹿特丹市Maasstad医院

荷兰鹿特丹市Erasmus大学医院

荷兰Sittard市Maasland医院/ORBIS

荷兰Uden市Bernhoven医院

荷兰乌特勒支大学医院

荷兰Weert市St. Jansgasthuis医院

中国长垣宏力肿瘤医院

丹麦Aalborg市大学医院

荷兰Harderwijk市St. Jansdal医院

荷兰Nijmegen市St. Maartens诊所

荷兰Meppel市Diaconessenhuis

荷兰Vlissingen市Admiraal de Ruyter医院

荷兰Zutphen市Gelre医院

荷兰Roosendaal市医院

中国东滩生态医疗健康城

泰国曼谷Ramathibodi医院

泰国曼谷Chula私人医院

埃及Mansoura泌尿外科及肾脏大学医院

孟加拉国4所新医院及13所地区治疗中心

加纳Tamale教学医院

荷兰安地列斯波内赫Fundashon Mariadal治疗机构

荷兰阿姆斯特丹Onze lieve Vrouwe Gasthuis

荷兰Zwolle市Isala诊所

荷兰Breda市Amphia医院

荷兰乌特勒支市Stratenum大学医疗中心

荷兰鹿特丹市眼科医院

荷兰Hilversum市Tergooi医院

南非军医院

南非KwaZulu-Natal省Empangeni医院和Ngwelezane医院

南非Gauteng省Flora诊所

南非ICM医院

南非Mamelodi医院

南非Mpumalanga省Rob Ferreira医院

荷兰Heerlen市Atrium医院

荷兰Assen市Wilhelmina医院

荷兰莱顿市Diaconessen医院

英国Carshalton Wrythe Lane的St Helier医院

英国Merton Lambton Road的健康中心

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英国考文垂和沃里克大学医院



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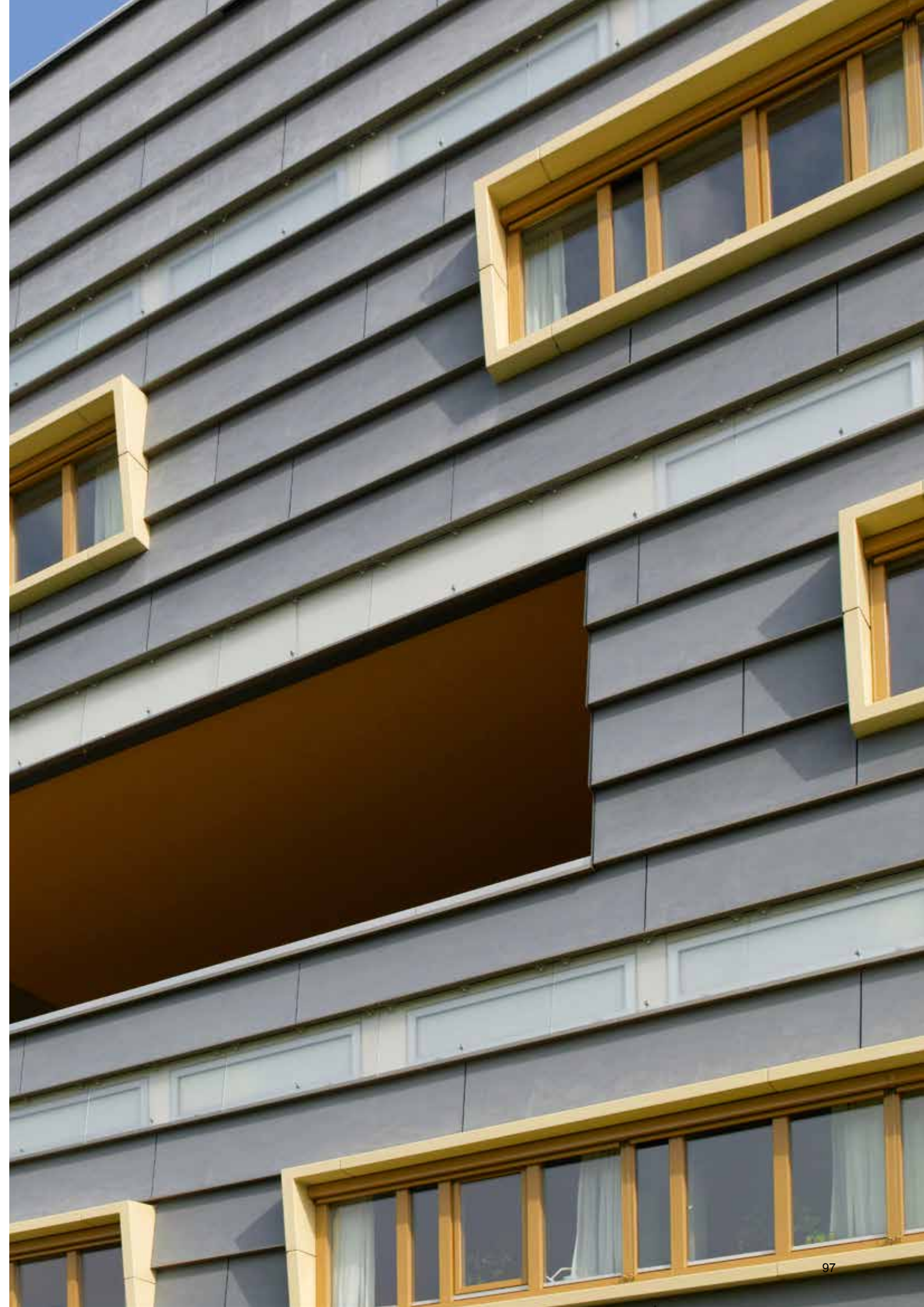






Kennemer Gasthuis North, Haarlem, The Netherlands

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