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Authors: Zhao Ming Wang, Design Director, CCDI Group
Xia Ai, Research Director, CCDI Group

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Green Work Space in High-Rise Building Through Openness and Connection | 绿色流动空间：深圳百度大厦的办公体验设计解析



Zhaoming Wang
王照明
Design Director | 高级设计总监

CCDI Group | CCDI悉地国际

Shenzhen, China | 深圳, 中国

Mr. Wang Zhaoming is now design director of CCDI group and the chief architect of Dong-Xi-Ying Studio. He graduated from Shenzhen university and joined CCDI in 2002. He is one of the most important architects practicing in high-rise buildings and has worked on landmark projects such as Baidu Towers, Tencent Headquarters, Shenzhen Aerospace International Center in the past few years.

王照明先生毕业于深圳大学，2002年加入CCDI，现任高级设计总监、东西影工作室主持建筑师。他是CCDI在高层建筑领域最重要的创作力量之一，近年来带领团队完成了百度大厦、腾讯大厦、航天中心等多个地标作品。



Xia Ai
艾侠
Research Director | 研究主任

CCDI Group | CCDI悉地国际

Shanghai, China | 上海, 中国

As the research director of CCDI group, Mr. Ai Xia graduated from Tongji University and joined CCDI in 2004. He is a research-oriented expert of design and knowledge management who has brought 8 publications and over 30 articles into fruition. Mr. Ai leads a research team to explore the interaction between technical and commercial value of architectural design.

艾侠先生毕业于同济大学，2004年加入CCDI，现任成果研究部主任，致力于建筑文化和设计理论的研究，在商业综合体、交通设施、居住和医疗建筑等领域发表30余篇论文，主编过8本不同类型的专业图书。他领导了探索建筑设计中的技术和商业价值的研究团队。

Abstract | 摘要

Five years ago, CCDI put forward the concept of outdoor green work space in the high-rise building. These buildings vertically grew and interconnected with structural refuge floors as nodes. This concept was subsequently implemented in the Baidu building. As a technological innovation oriented Internet giant, Baidu has new requirements for the openness and publicity of work space. The design of CCDI expressed such an expectation of future work space, and has been recognized and supported by the city public.

Keywords: Experience-Space, Green-Connection, High-Rise, Internet Headquarters, Urban View

早在五年前，CCDI的设计团队就提出在超高层建筑中开放性的绿色工作空间，这些空间在垂直向展开并与结构避难层连通形成节点。这一理念在百度大厦中得以实施，作为以科技创新为导向的互联网巨头，百度对于工作空间的开放性和公共性都有新的要求，CCDI东西影工作室的设计表达了这样一种对未来工作空间的体验期望，并且得到城市公众的认可和支撑。

关键词：体验空间、绿色连接、高层建筑、互联网总部、城市视野

Shenzhen is a city with great vision. As early as ten years ago, Shenzhen Municipal Peoples Government planned ahead to orient Nanshan District, on the west of Futian District, as a new CBD for the development of high-rises, new technologies, and scientific and technological enterprises, and has also introduced a series of preferential supporting policies. Later, Shenzhen further clarified its developmental direction of "Capital of Design and Creativity," and thus laid a strategic basis for the site selection by Internet giants. When understanding the decisions made about the urban strategies of Shenzhen from the perspective of "contemporariness," it can be seen that this city attempts to break the intrinsic concept of "spatial attributes" of traditional cities, and to fully utilize the differentiated characteristics and attributes of different locations to attract people who have different demands, personalities and interests but who are nevertheless equal with their sense of independence. These mixtures and vitalities have bred the most charming contemporary spirit of Shenzhen.

In the rapid development of China's Internet industry, Baidu, Alibaba and Tencent are respectively leading and dominating the search, e-commerce and social networking fields, and they are collectively referred to as "BAT." As an important strategic layout, the three giants have the urgent hope of fully utilizing their powerful traffic resources and service capacities to extend their advantages

深圳是一个有远见的城市。早在十年前，深圳市人民政府就计划将位于福田区西部的南山区打造成一个新的中央商务区，以发展高层建筑、高新技术，高新技术企业，并推出了一系列优惠政策。后来，深圳进一步明确了“设计之都”的发展方向，从而为互联网巨头的选址奠定了战略基础。当理解了“当代性”视角下的深圳城市发展战略决策，可以看出这个城市试图打破传统城市“空间属性”的固有概念，并充分利用不同地点的差异化特征和属性吸引有不同需求、性格和兴趣但却平等与拥有独立意识的人。多样性和生命力孕育了深圳最迷人的当代精神。

在中国互联网产业的快速发展中，百度、阿里巴巴和腾讯分别领先和主导了搜索、电子商务和社交网络，他们被统称为“BAT”。作为一个重要的战略布局，三大巨头迫切希望可以从线上到线下空间、从虚拟空间到物理空间充分利用他们强大的交通资源和服务效能的优势。而建设一座具有里程碑意义的建筑无疑是最直观和最雄心勃勃的物象方式。在这片创意之地，随着互联网科技企业的创新和资本的大规模聚集，一批新的办公楼正在打破从现有限制和模式，为未来工作方式和生活节奏创造革命性的可能。自2007以来，BAT先后投资建立了自己的国际办公中心（从2010年到2016年），并为这座巨型城市的扩张添加了新活力。



Figure 1. Street perspective at daytime (Source: CCDI Group)
图1. 百度大厦日景透视图 (来源: 悉地国际)

from online to offline spaces and from virtual spaces to physical spaces. In this regard, building a landmark building is no doubt the most intuitive and most ambitious way of setting up their physical image. On this land of creativity, with the massive gathering of both creativity and capitals in Internet-based scientific and technological enterprises, a batch of new office buildings are breaking away from existing limits and patterns and producing revolutionary possibilities for both the manners of work and the paces of life in the future. Since 2007, BAT have successively invested and built their own international office centers (from 2010 to 2016), and are adding new vitalities for the expansion of this megacity.

1. A New Beginning of Baidu in South China

Baidu International Building is the first high-rise building invested by Baidu, a Chinese Internet giant, and its emergence reshaped the urban image of Nanshan Science and Technology Park, Shenzhen. The building is

also a customized design practice conducted by CCDI Dongxiying Studio based on its combined cognition of the efficiency-space and experience-space of internet headquarters (Figure 1).

Throughout most of the 20th century, high-rise office buildings presented a convergence phenomenon to some extent. They created a high-density prosperity for cities, but they also gave rise to extremely unbalanced allocation of resources. These special urban public buildings, while pushing the boundaries of high-rise buildings, are also restrained by actual conditions to an extremely large degree. That is, they usually have similar appearances and spaces which are limited by the efficiency evaluation indexes, so what remain are only differences in height and surface practices (Figure 2).

However, since entering the 21st century, we have observed a new phenomenon regarding the customer segmentation: Office buildings with superior resources (such as important financial groups and industrial giants) usually select CBDs relying heavily on urban transportation and business environment,

一、百度的新起点

百度国际大厦，是中国互联网巨头公司百度 (Baidu) 投资建造的第一座高层建筑，它的出现为深圳南山区科技园奠定了新的都市形象。这座建筑也是CCDI悉地国际的东西影工作室基于对互联网总部办公建筑的效率空间与体验空间的复合认知而进行的一次定制设计实践 (图1)。

在20世纪的大多数时间里，高层办公建筑存在一定的趋同现象。它们意味着为城市创造出高密度的繁荣景象，也带来极度不均衡的资源分配。这种特殊的城市公共建筑，在挑战高度的同时，也受到极大的条件制约，往往外观形态趋同，空间被标准化的层板分割，楼层被评估效率的指标限定，剩下的只有高度和表皮做法的差异 (图2)。

然而，进入二十一世纪以来，从办公建筑的客户细分上说，我们观察到一个现象：对于资源优势型的办公建筑 (例如重要的金融集团和实业巨头) 往往选择对城市交通和商务环境依赖度最高的CBD区域，建筑设计即使不需要太多的体验型空间就能够达到很好的客户粘性；而资源劣势型的办公建筑，往往不具备最佳的区位条件或城市环境优势，部分业主有可能适当降低效率去提升体验的场景感，以获取差异性，这些差异性能够为建筑带来竞争力；而对于近十年来新兴的互联网和文化企业，以创新为内核。他们对于体验型空间的需求非常高，甚至于空间本身就是企业文化的一部分，往往要求建筑师在局部创造出一种慢优生活的场景。如果是总部自用型的建筑，这样的要求更加明显。

于是，百度大厦成为一种难能可贵的设计机遇，它兼备了城市核心地段、互联网企业、总部自用等多重特征，超过180米的

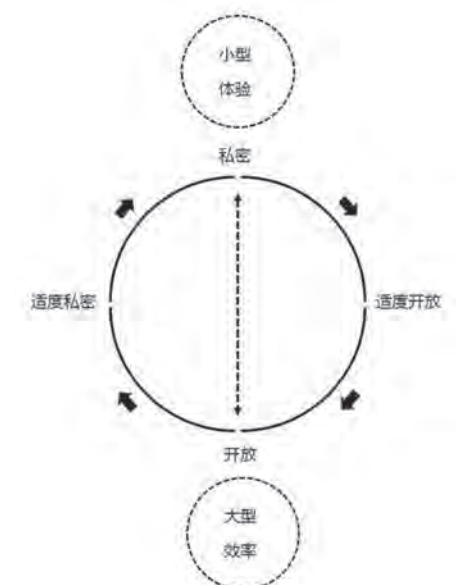


Figure 2. Efficiency & experience model (Source: CCDI Group)

图2. 办公空间体验与效率的解析模型 (来源: 悉地国际)

and their architectural design can reach a very high degree of customer stickiness without too much experience space; most office buildings with inferior resources do not enjoy such superior location-conditions or urban environment advantages, and some owners may choose to appropriately reduce their efficiency to improve the sense of scenarios of their experience and to create differences, as these differences develop competitiveness for these buildings; as for the Internet and cultural enterprises emerging in the past decade, they usually adopt innovation as their core, and have an extremely high demand for experience space or even adopt space itself as an element of their enterprise culture, so they frequently ask their architects to locally create the scenarios of slow-pace and high-quality life; in the case of headquarter self-use buildings, such demand becomes even more urgent.

In this sense, Baidu International Building poses a precious design opportunity, as it enjoys multiple characteristics like urban core area, Internet enterprise, and headquarter self-use, etc., and the height of above 180m makes it possible for it to become a new model of these high-rise buildings. In the bidding process, the architects of CCDI have fully displayed their unbounded ambition: The overall connection of the east and west towers creates a shared circular courtyard, and links up the dynamic core from the circle to the standard floors of towers; the continuous staircases designed make it possible for people to walk down from the roof garden to every area of each floor. Although the concept has been partially restrained and reduced in the implementation process, it's still a future-oriented innovation (Figure 3).

2. Architectural Design Process

As the headquarters and R&D center of South China, Baidu International Building is a multipurpose office building integrated with operations and R&D. On the premise of district planning for a visual interface, east tower is orientated north and south while being opened towards east and west for maximizing the utilization of landscape resources and forming a good image for the block. On the other hand, west tower matches east tower, and green coverage in the center is enclosed by both towers. Such a design enhanced the integration and iconicity of the district.

In a high-level architectural seminar held years ago, an expert impressed us with his powerful words, "We have spent quite a lot to drive a whole generation of people into expensive buildings, but now they are yearning for the green trees and beautiful sunshine outside." Indeed, as an enterprise believing itself to be comparable to those in Silicon Valley, Baidu is responsible for realizing this dream in architectural space. Getting closer to trees and sunshine used to be embodied to varying degrees in the "low-density park" of Baidu, but now, for the first time, it is building its own high-density high-rise building in Nanshan Science and Technology Park. So how to create a green space that only exists in low-density parks in a 180m high-rise building is the greatest challenge to this case.

Around five years ago, in the design competition of Beijing Z15 tower, CCDI architects developed a concept of outdoor green work space in the high-rise building. They vertically grew and interconnected with structural refuge floors as nodes. The Z15

高度使它有可能成为这类高层建筑的新范例。在投标过程中, CCDI的建筑师显现出极大的抱负: 东西塔楼整体连接的创造出一个共享的环庭, 并且从环上引出了活力核心带到塔楼的标准楼层上, 设计了连续的楼梯让人们从屋顶花园一直步行到楼层的每一个区域。虽然在实施过程中, 一部分的概念被限制和缩减, 但仍不失为一座面向未来的创新之作(图3)。

二、建筑设计解析

作为百度华南地区的总部和研发中心, 百度国际大厦是一座集运营和研发为一体的综合性办公楼。在遵循片区规划视觉界面的前提下, 塔楼呈南北向布置, 东西向敞开, 以最大化利用景观资源, 并形成对街区良好的形象展示。同时, 西塔楼与之呼应, 对中心绿地形成围合的态势, 这样的设计手法增强了该片区节点的整体性和标志性。

在几年前举行的一次高层建筑研讨会上, 一位专家的话令我受益匪浅, “我们花了相当多的时间将一代人送进了昂贵的建筑, 但他们现在向往的是室外的绿树和煦的阳光。”事实上, 作为一个相信自己可以与硅谷相媲美的企业, 百度有责任在建筑空间实现这一梦想。百度的“低密度公园”在不同程度上体现了越来越接近树木和阳光用于, 但现在百度第一次在南山科技园建设自己的高密度高层建筑。所以, 如何在180m高层建筑的低密度公园创造一个绿色空间是本案最大的挑战。

建筑师从百度自身对办公的差异化需求出发, 将传统中核大进深办公平面做“切薄”处理, 形成每个标准办公空间进深为12米的方整平面, 并可以灵活适应各种办

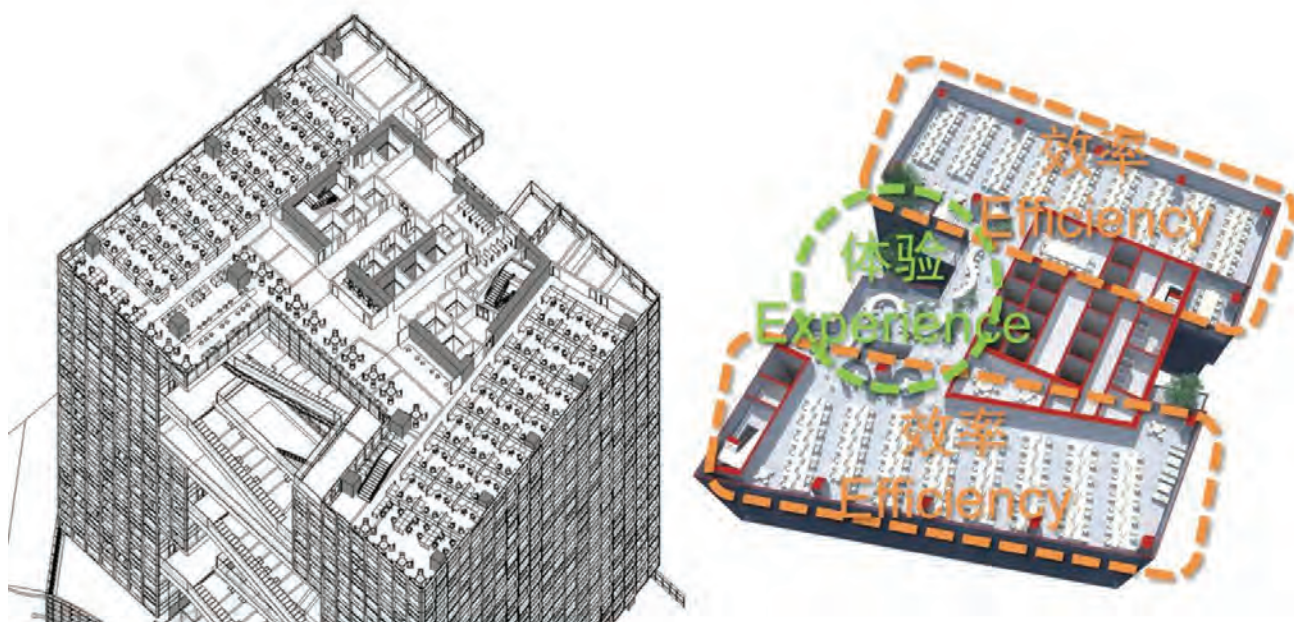


Figure 3. Experience-space between efficiency-space (Source: CCDI Group)
图3: 从百度大厦平面关系看“效率”与“体验”的叠合(来源: 悉地国际)

tower plan seems to proclaim a new high rise typology in-between the high density of contemporary China megacities and interactive space in the clouds. Although it was just a competition proposal, the idea never went away and was subsequently implemented in the Baidu building (Figure 4).

And in this project, designing based on Baidu's core values of simplicity and reliability, and planning from the demand for the differentiation of work by Baidu, traditional offices with large depths are divided into standard square office spaces with a depth of 12m each, which can flexibly meet the requirement of decorating the office in different ways. The most important thing is that such designs created a unique "lifelike core" space and realized the demand for connection in the Baidu headquarters. Such lifelike core spaces are linked by split-level staircases. Lifelike core, which includes meeting rooms of various sizes, facilitates funny and relaxed atmospheres. Informal communication regions are set inside these spaces. Such multi-type and situated spaces for meetings and discussions may spark the creativity of staff at any time. With the principle of low-carbon and environmental friendliness, and giving consideration to ventilation, lighting and landscape effect, Baidu International Building becomes a unique international office space (Figure 5).

The inspiration of elevation design of the building is derived from the name of Baidu. The unique Baidu elevation, which is created through changing ancient Chinese poetry into binary code and then integrating it with classic Chinese patterns of pane, indicates the enterprise image and temperament of Baidu as the world's largest supplier of Chinese search engine software. Aluminum alloy prefabricate components are adopted for the elevation. Punched panels are used in vertical direction for the outside wall and retractable blind inside so that the natural ventilation is ensured and a set of opening fans is avoided. As a result, the elevation effect looks more neat and uniform.

3. From Efficiency-Space to Experience-Space

Early office buildings emphasized the sharing of the means of production, so employees were concentrated in standardized spaces to maximize production efficiency. Apparently, the future-oriented office building form must be able to represent a dynamic organization with higher fluidity. The explosion of Internet information has flattened the channels of information acquisition and simplified

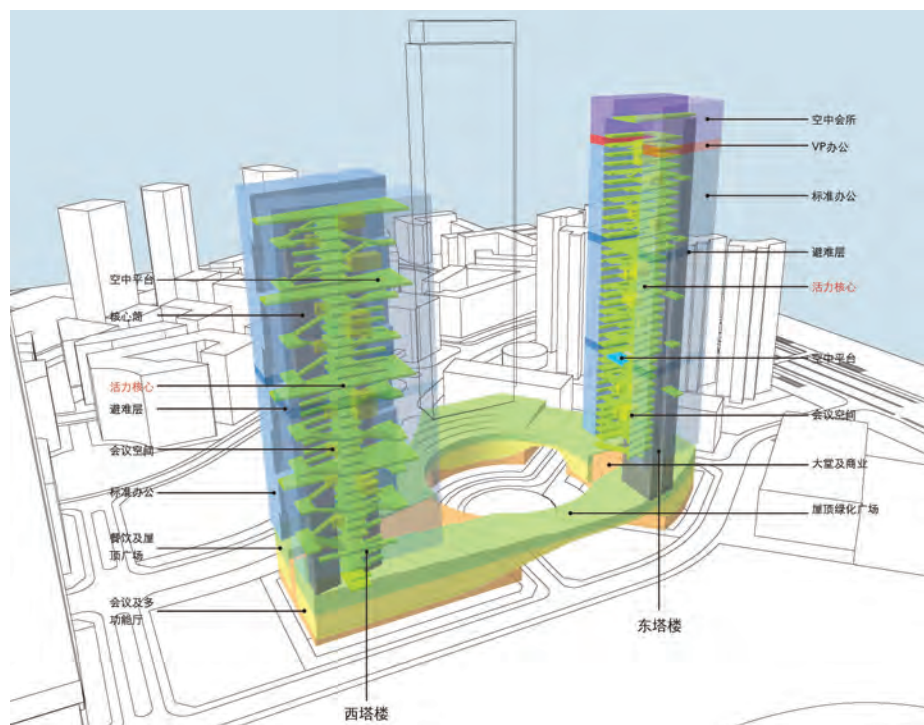


Figure 4. Vertical functions illustration (Source: CCDI Group)
图4. 垂直功能解析 (来源: 悉地国际)

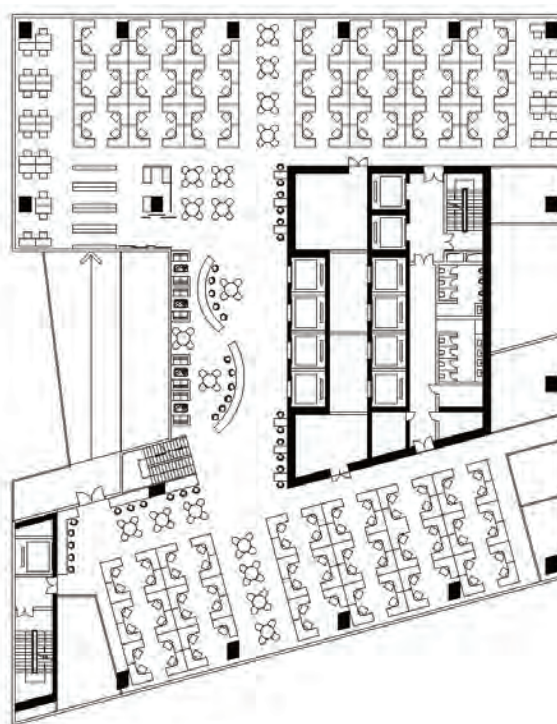


Figure 5. Typical floor plan of east tower (Source: CCDI Group)
图5. 东部塔楼典型楼层平面图 (来源: 悉地国际)

公布置的需求。这样的设计处理创造出了一个与众不同的“活力核心”空间，实现了百度总部办公空间对于“联系”的需求（图4）。

这个“活力核心”空间由楼梯穿插错层连接，包含了各种类型的会议空间，从两人间的讨论到十几人的圆桌会议，活力核心使开会变得更加轻松有趣。内部还在不同空间设置了许多非正式交流场所，这种多类型、情景化的会议与讨论空间的存在，能随时激发员工的创意火花。百度国际大厦秉承低碳环保的理念，兼顾通风、采光

以及景观效果，使其成为一座与众不同的国际办公场所（图5）。

大厦的立面的设计以百度的命名为灵感，将中国的古诗词转换为二进制代码，再结合中国古典的窗格形式，创造出独一无二的百度立面，完美的体现了百度作为全球最大的中文搜索引擎供应商的企业形象与气质。立面材料采用铝合金预制构件，外侧竖向为穿孔通风面板，内侧为可开启通风百叶，在保证室内自然通风量的同时避免了开启扇的设置，使立面效果更加整齐统一。



Figure 6. Vertical section (Source: CCDI Group)
图6. 空中活力核心的剖面 (来源: 悉地国际)

the means by which employees acquire knowledge and tools. As a result, employees are no longer confined to extremely limited space in their thinking process; the value-creating subjects have turned from minority into majority, and leaders are no longer the authority of knowledge but are more like organizers or platform brokers.

In the past, office staff members were familiar with neighbors only within the scope of 8m-10m. However, for those future-oriented innovation-based and knowledge-based organizations, the "moving boundaries" of office spaces must be continuously pushed, through more standard open floors, vertical circular flow areas between floors (no longer used as emergency escape routes), adoption of non-adjacent design elements to encourage fluidity inside floors, creation or arrangement of pleasantly surprising encounters, and so forth, which are all embodied in Baidu International Building.

Architects are locally expanding offices spaces and adjusting their sizes to achieve more friendly interfaces, maximize the possibilities of interactions and creating more exchange collisions and value inspiration points. What we call "winning outside stations" refers to the creation of more diversified contact interfaces and interconnected communication spaces to effectively activate more space. The starting points of design include (but are not limited to):

- + Increase the time of employees away from fixed desks;

- + Expand meeting rooms, public courtyards, corridors and other interactive spaces;
- + Add spaces that can be used to hold various activities, and foreseeing interfaces;
- + Adopt virtual mobile communication methods;
- + Adopt cloud storage devices to save physical space;
- + Retain some working status in canteens, coffee shops and other informal spaces.

Accordingly, we have further summarized it as: $V = E \times E$

(Which means the future office Value equals the Efficiency times Experience)

Office space is usually classified into two parts that should be treated in different manners, i.e., efficiency space and experience space, the former of which is used to meet the demand of centralized office for efficiency and thus must conform to some market evaluation systems, while the latter is created for the routine exchanges of customers. As far as high-rise buildings are concerned, the addition of architectural height itself creates some unique experiences. This demand is not produced by internal spaces, but by the form of the building and the field of view of the city in which it is erected (Figure 6).

In the past, an office building with a plane efficiency rate of less than 70% would

三、从效率空间到体验空间

早期办公建筑以共享生产资料为前提, 将员工集中在标准化的空间内, 实现生产的效率化。显然, 面向未来的办公楼形态必须能够代表一种更具流动性的动态组织。互联网信息大爆炸使得信息获取渠道扁平化, 员工获取知识和工具的途径比原来简化了非常多, 这个时候每一个员工不再是闭塞在很小的空间内去思考问题。创造价值的主体由少数变成了多数, 领导者不再是知识的权威, 而更像一个组织者或平台的经纪人。

过去, 办公人员通常认识大约8米至10米内的邻居。然而对于明日的创新型、知识型组织来说, 必须加大办公空间内的“运动边界”: 比如更加开放的建筑标准层、在不同楼层间的垂直型环形流动区域(而非将其作为紧急逃生通道); 通过非相邻设计元素来鼓励楼层内部的流动性, 创造或编排令人惊喜的不期而遇, 这些在百度大厦之中均有所体现。

建筑师正在把办公空间局部地放大, 尺度做得更加宜人, 界面做得更加亲切, 让交互的可能性达到最极端的状态, 随时随地可以产生交流碰撞和价值激发点。我们称之为“赢在工位之外”: 创造多样的接触界面, 以及相互贯通连续的空间, 这样空间才能够被有效激活, 其设计的出发点主要(但不限于)以下这些:

- + 增加员工离开固定办公桌的时间;
- + 增大会议室、公共庭院、走廊等互动空间
- + 增加可以举办各种活动的空间, 有预见性地增加新的界面
- + 采用虚拟移动的工作通讯方式
- + 采用云端存储设备以节约实体空间
- + 将部分工作状态保留在餐厅、咖啡馆等非正式空间

于是, 我们进一步总结为: 价值=效率×体验,

办公空间分为效率型空间和体验型空间两个部分, 应该区别对待这两个部分, 效率型空间是用来满足集中办公对于效率的诉求, 必须符合某些市场的评价体系; 体验型空间是为客户日常交流创造的。对于高层建筑, 随着建筑高度的增加, 高度本身就能创造一些独特的体验。这个诉求并不由内部空间产生, 而是因为建筑形态以及所在城市的视野范围造成(图6)。

在过去, 一座写字楼的平面实用率如果低于70%, 就会被客户诟病, 在今后, 也许有一百种增加体验的方式去进行平衡。例

surely receive complaints from customers; however, in the future, there may be hundreds of experience-introducing methods to balance it. Taking the Poly International Plaza designed by SOM a few years back in Pazhou, Guangzhou as an example; the architect turned the office space previously laid out around the core tube into a tabular space, so as to create a very complete field of vision and transform the structure into a cross-linked system through separation. When you walk out of the core tube, you can see a lighting seam, which provides a very unique experience. In the case of the Tencent Building designed by CCDI ten years ago, the core tube was split for layout on both sides of the plane, and an up and down-penetrated atrium is implanted in the middle, covering a sports floor and dining floor; although the overall design still follows the principle of efficiency, it still creates a certain sense of experience. As for the Tencent Seafront Tower designed recently by NBBJ, it has taken one step further to fix the efficiency space within the two tabular towers, set the experience space in the middle and implanted three huge shared floors. It's our opinion that the experience scenarios of the building have in this way been expanded to achieve a balance of experience and efficiency.

4. Towards a Future of Green Fluidity

Seen from the perspective of the vertical city, the design of Shenzhen's Baidu Building has cut out complex aerial spring layer connections from two opposite high-rise elevations, so as to endow them with a publicity with certain urban significance in the vertical space; placing themselves in the building, employees feel like they are inside a vertical city, and the aerial ramps and courtyards have embraced this significance and realized the spatial expectations of Baidu's various departments for "diversified connections."

Currently, the east tower has been completed and put into use in 2015. Its space adopts the form of sectional stacking; the entire core tube is placed towards one side, and a U-shaped activity area is created around the court side space on the plane. Vertically, an aerial garden is implanted into each unit of eight floors, and every four floors are stacked in misplacement; landscape staircases are built to vertically connect the external spaces of the building in series, thus using the "core" as a carrier for routine work and life. The trail system around the aerial courtyard realizes the free connections of floors and reduces the daily reliance on elevators. Each floor is also provided with an exclusively accessible

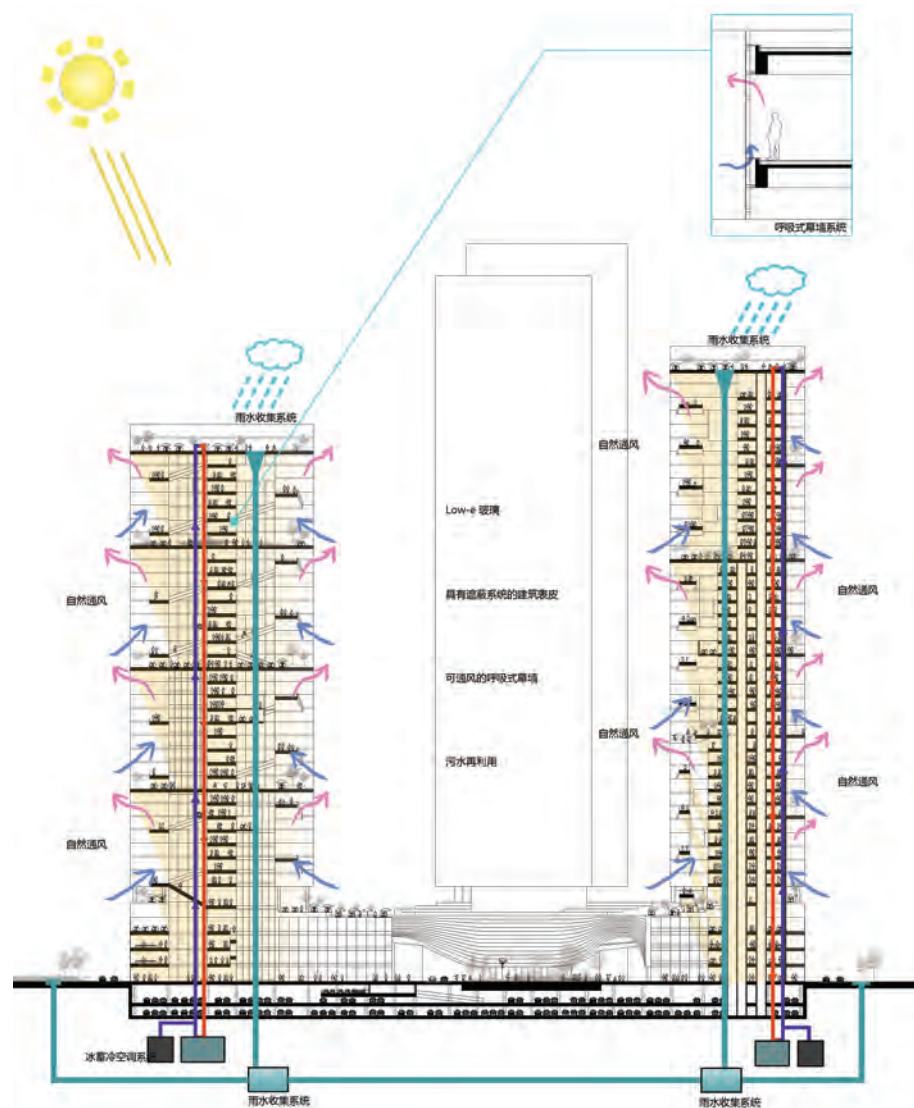


Figure 7. Green building (Source: CCDI Group)
图7. 可持续设计示意图 (来源: 悉地国际)

outdoor area. To ensure staircase and platform safety, we have designed a 2.1m-high protective fence, which can also reduce the wind speed (Figure 7, 8).

In the lower lobby of the building there is an empty cavity, and, considering that most rooms of the annexes, such as IDC machine rooms, kitchens, and meeting rooms, etc., do not need lighting, we have adopted cloud-shaped daylight openings for lighting areas with perforated plates; in the lobby, we have designed aerially-stacked dynamic core modules to create visual connections. The surface of the building adopts 2.1x2.1 standard modules and three types of glasses, and adjusts chromatic aberrations through the density of white color glaze points to create pixel effects. The annexes adopt non-standard 6mm aluminum plates without edge folds, and they are pieced together in an extremely smooth manner to achieve the effect of one plane; the sharply-cut corners can reduce the thickness of surfaces to the minimum degree, and a light and flexible surface layer is also added (Figure 9).



Figure 8. Space in green stairs (Source: CCDI Group)
图8. 空中景观阶梯上的工作空间 (来源: 悉地国际)

如早几年SOM设计的广州琶州的保利国际广场, 建筑师原来可能绕着核心筒布局的办公空间变成一个板状空间, 使其面向珠江有一个非常完整的视野面, 结构被分离出来形成一个交叉体系。当走出核心筒能看到一个采光的缝隙, 是一个非常独特的体验。CCDI在十年前设计的腾讯大厦, 核心筒被分离布置于平面两端, 中间植入了上下贯穿的中庭, 包括运动楼层和餐饮楼层, 虽然整体依然以效率为指导, 但是也作出了一定的体验感。在看近期NBBJ设计的腾讯滨海大厦则更进一步, 效率空间

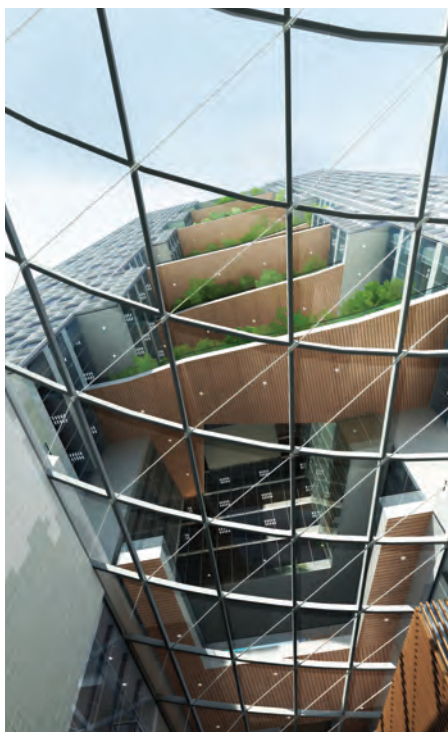


Figure 9. Glass roof of entrance hall (Source: CCDI Group)
图9. 从入口大堂仰望空中的绿色连接空间 (来源: 悉地国际)

Following the completion of the east tower, the west tower and the circular courtyard are also under construction, accompanied by the continuation of massive and complicated design work; the entire building, consisting of two towers, will eventually emerge before the world like a complex, and we expect it to meet the beautiful expectation of Shenzhen as the "Capital of Design."

The emergence of high-density experiential office buildings can be understood as the result of balance between the limited land resources of Shenzhen and the inner demand of scientific and technological enterprises for spatial innovation. From Tencent to Baidu, these Internet capital-based buildings are presenting to us the design trend of these office buildings in the future: The traditional mode of "core tube + peripheral use space, adopting construction ratio as the criterion of spatial efficiency" is marching towards more energetic, creative and efficient new paradigms. That is, the core tube layout is experiencing more freedom; the interconnections among office spaces are becoming closer; the penetration between architectural and urban interfaces are becoming more intimate; and more attention is being paid to the psychological feelings and comfort level of users. On the whole, this represents the design trend of "humanization of science and technology," and, in the geographic and climatic conditions and unique urban spirit of Shenzhen, we are constantly looking for more satisfactory answers (Figure 10, 11).



Figure 10. Night view of completed east tower (Source: CCDI Group)
图10. 百度大厦东塔竣工 (来源: 悉地国际)

就固定在两个片状的塔楼内, 中间是体验型的空间, 植入了三个巨型共享楼层。我们认为建筑的体验型的场景被放大了, 达到与效率对等的地位。

四、百度大厦建成展望

从垂直城市的角度说, 深圳百度大厦的设计把相互对望的两个高层立面切割出复杂的空中跃层连接, 使得它们在垂直空间上具备了某种城市意义的公共性: 员工在这座建筑中就如同置身一座垂直城市, 空中的坡道和庭院迎合了这个意义, 实现了百度各个工作部门对于“多样化联系”的空间期望。

目前, 百度东塔已于2015年建成投入使用。它的空间是以剖面的形式进行叠加的: 整个核心筒向一侧偏置, 然后在平面上是围绕边庭空间形成了一个U字型的活动区域。从垂直上看, 以8层为一个单元植入空中花园, 每4层单元错位叠加, 设置观景阶梯将建筑的外部空间竖向串联。每个楼层都有专属可达的户外区域。为了保证楼梯和平台的使用安全, 我们设计了2.1米高的防护栏板, 同时也起到降低风速的作用 (图7、8)。

建筑的底部大堂做了一个空腔体, 裙房大多数的房间都是不需要采光的, 如IDC机房, 厨房、会议室等等, 需要采光的区域我们通过穿孔板做了云状采光口, 大堂部分设计希望抬头可以看到空中叠合的活力核心模块, 视觉上形成贯穿的联系。建筑表皮采用了2.1x2.1的标准模数, 使用了三



Figure 11. Baidu Tower among urban context (Source: CCDI Group)
图11. 百度大厦成为城市文脉中的绿色高塔 (来源: 悉地国际)

种不同配置的玻璃, 通过白色彩釉点的疏密调整色差, 形成像素效果。裙房采用的是非标准的6mm铝板, 不需折边, 铝板的拼接变得异常平滑, 看起来像一个面一样。切得非常锐利的转角能够把表皮的厚度消减到最薄。附加了一层轻且柔和的表皮 (图9)。

东塔建成之后, 西塔和环形庭院的实施也正在进行之中。大量的深化设计工作还在繁复的延续, 整座百度双塔最终将以类似综合体的形态出现在深圳城市的视野中, 我们但愿它们能够符合深圳“设计之都”的美好期望。

高密度体验式办公建筑的出现可以理解为了平衡深圳有限的土地资源与科技型企业空间创新的内在需求的产物。从腾讯到百度, 这些基于互联网的建筑向我们展示了这些办公建筑的设计趋势: 从传统的“核心筒+外围使用空间, 以建筑比例作为空间效率的标准”正走向更具活力、创新和高效的新模式。也就是说, 核心筒的布局更加自由; 办公空间之间的联系更加紧密, 建筑和城市之间的相互渗透更多, 更加关注用户的心理感受和舒适度。总体来说, 这代表了“科技人性化”的设计趋势, 我们将在深圳的地理、气候条件以及独特的城市精神下不断寻找更满意的答案 (图10、11)。