

人居、空间、创意

Strategy, Space & People SIGNAL Architects

撰文 SIGNAL Architects

翻译 方朔



A work situation in our own office in Copenhagen

SIGNAL是一个跨行业咨询公司，在变革管理过程中充分利用“空间”这一策略性工具。我们关注空间的有形设计，使之在无形中为人群营造最佳的人际关系，并为企业创造最大的价值。具体如下：

- 战略性建筑咨询。我们会为建筑设计领域的客户提供一揽子有关经营方针、经济运营及设计策划的建议。
- 基础信息的支持。在过去的11年里，我们收集了在不同的工作与学习活动中，员工工作与学习的要领及流程安排等关键性数据，故而能够有效决策和每平方米用量有关的参数。
- 公司办公楼的战略性设计。基于企业未来的发展，并期望提高员工工作满意度及工作表现，我们通过分析和规划，能够计算出所需要办公楼的规模和新旧程度。
- 对客户变革管理的要求给出战略性建议。这样，建筑设计工作和企业变革发展就能同步协调，合二为一，提高效率。
- 用户参与。我们把终端用户纳入体系中后，佐以一系列性能良好的工具和分析处理方法，创新性工作就触手可及。
- 专业知识。我们的专业知识着眼于未来工作及学习环境的发展，并致力于营造健康的生活环境和更好的生活。
- 从需求确定到分析实施，建议一站式服务。我们把建筑空间的营造和客户的商业发展联系在一起，为其建言献策。
- 评估。我们会对我们所有已完成的项目进行评估，检验是否符合我们提出的“空间创造价值”理念。

about us

SIGNAL is a cross-disciplinary consultancy firm that works with space as a strategic tool in change processes - focusing on how the physical design of space can best be conducive to good relations among people and add value to the organisation. Here is what we offer and what makes us unique in our field:

Strategic building counselling. We advised top leaders in the private and public sector on architecture and design, where we offer a unique combination of business know-how, economy and design.

Evidence-based work. During the past 11 years we have collected key figures on how people work, how we learn - and how we spend time during the day on different working and learning activities. Therefore we know, that strategic choices have an impact on m2 usage.

Strategic office design - we are experts on analysing and designing how new or existing buildings can support the clients business development and at the same time increase job satisfaction and business performance.

Strategic advice which links to our clients Change Management processes - so that architecture and change go hand in hand and become one integrated service.

User involvement - using a number of well tested tools, processes and analysis methods we facilitate innovative processes that help generate new ideas and values for the future by involving the end users - encouraging them to think outside the box!

Expertise that focuses on the development of future learning environments, working environments and physical surroundings for health and the good life.

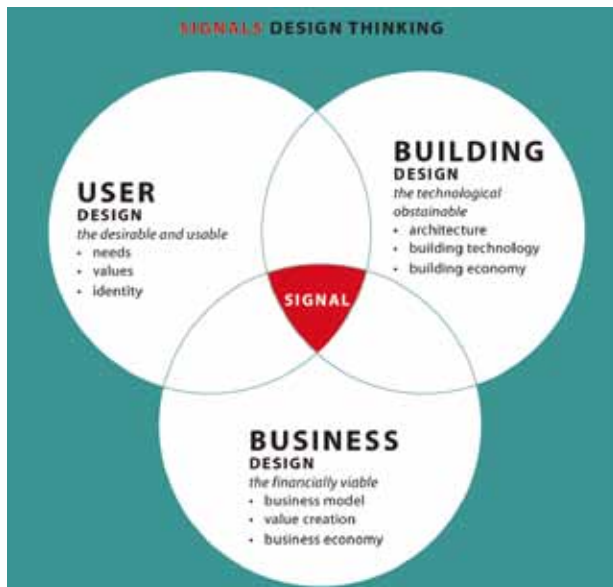
Advice ranging from identification of needs, through analysis to implementation - where we link space and architecture to business development.

Evaluation on all our completed projects - why we can prove that SPACE CREATES RESULTS when used strategically!

The mental rebuild

- how changes in behaviour can bring new resources to light

Our field of work is about future spaces for people. In this essay our focus is on our



照片来自于我们的室内工作坊。我们邀请我们的客户与终端使用者和我们一起进行头脑风暴游戏，这能帮助他们明晰将来的目标。

思维重构——行为的改变带来新灵感

我们工作的范畴是关于人类未来的空间问题。我们致力于用我们的方法改善未来学习环境并战略性使用空间。

作为创新者，我们最重要的任务之一就是让客户发散思维，使他们预测到事件所有的可能性，明白微小的改变能够带来新的灵感。

在SIGNAL，我们提出了“思维重构”的概念。概念的核心是在不移动一片墙的情况下，仅仅改变传统的空间使用方法，看究竟能在多大程度上满足客户增加价值的需求。这个概念在2010年为SIGNAL赢得了理念创新冠军，事实上，应用这个概念后我们收获颇丰。

思维重构是指以使既有空间功能优化为目的，从里到外全面地构想一个建筑的布局。

无数新建工程验证了如下事实：把一个项目优化精简掉原规模的30%~50%是可能的。仅仅在空间的日常使用等问题上，就可以摒弃常规的大规模建设的思维，而后再考虑具体的行动措施，并进行变更与完善。

面对金融危机的威胁，现在我们很多客户都倾向于投身附加值高的概念理念与技术工艺的开发。鉴于未来几年新建项目中财政投入的下降，现在很多建筑项目着眼于对目前的硬件设施进行升级改造及性能强化。

问题是我们如何做才能够为客户提供可持续的发展机会，同时优化资源的使用。正如我们说的那样，如果我们战略性地使用建筑空间，空间会创造非凡的价值。

可持续性

提到可持续性，客户往往会首先想到降低能源消费量，其实远非那么简单。根据以往经验，SIGNAL为满足客户要求，推出了社会可持续性、建筑外形可持续性、经济可持续性和行为可持续性等参数指标。

在建筑项目概念设计之前，我们在工作中应用思维重构的概念，释放和优化掉很多和上面提到过的各种与可持续性指标有关的资源使用。遗憾的是，由于人们总是把建筑的变更设计理解为局部的改变，而没有考虑对建筑的使用情况进行优化，所以建筑项目资金并不总能按照优化的方案进行分配。

建筑变更所体现出的可持续性体现在哪里？未来关于可持续性的诉求将如何实现？不同的企业有不同的价值观和兴趣点，从而衍生出各式各样的可持续性举措；我们关注建筑的运营和这些可持续性举措之间的关系。

methods for developing learning environments for the future and the strategic use of space.

As the innovators we are, one of our most important tasks is to open the minds of our clients and make them see all possibilities available. This often requires new ways of thinking - in order to create innovation and development. At SIGNAL we dare to address routines and work habits and ask whether those routines are "the only answers". Furthermore making the clients realize, that small alterations can bring new resources to light.

At SIGNAL we have developed a concept that we call Mental Rebuilding. The objective of this concept is to determine how much we can achieve with organisations in relation to their need to add value solely by challenging conventional wisdom regarding the use of space – without moving a single wall. It is in fact possible to achieve a great deal by applying this concept - a concept which in 2010 awarded SIGNAL as Innovation Knowledge Champions.

//The mental rebuilding is about thinking a building from the inside and out - with focus on making the existing physical space perform better.

Specific projects dealing with newly merged university campuses, institutions of learning and office facilities document the fact, that it is generally possible to optimise an existing physical framework by 30-50%. Simply by challenging the conventional behaviour of the organisation in question in terms of its daily use of space rather than venturing into large-scale conversion projects, before having considered the change in behaviour which always follows with development and change.

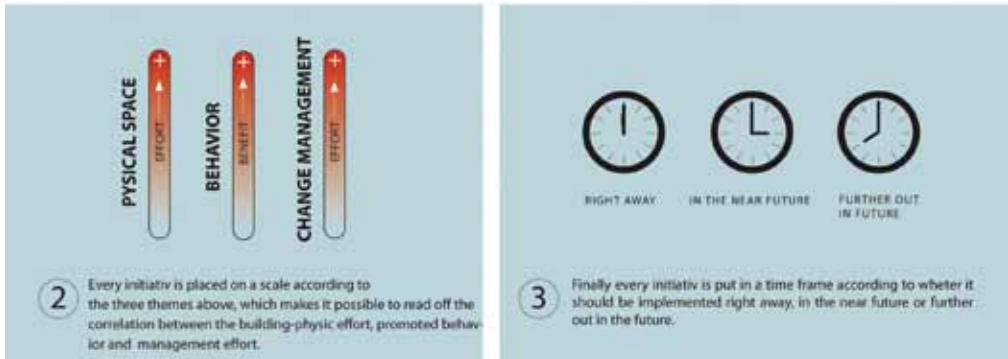
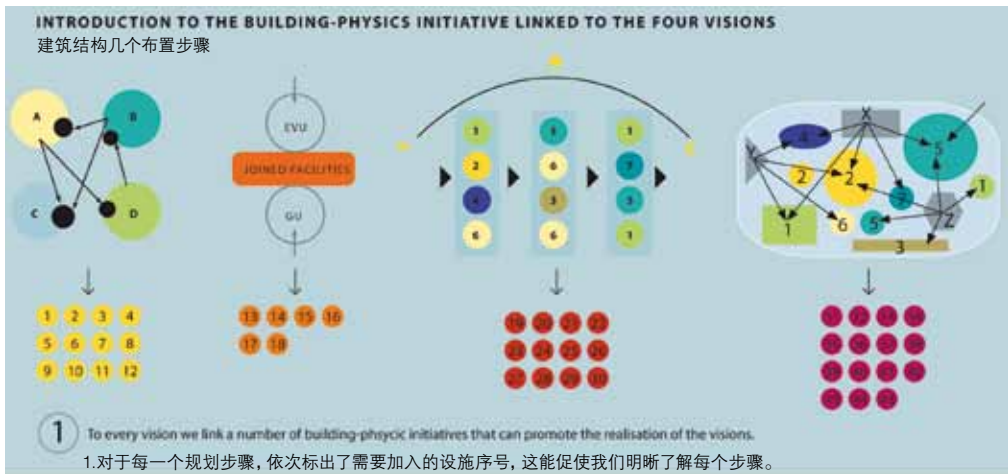
In a time where many of our clients are affected by challenges posed by the financial crisis, both private and public organisations currently tend to focus on the development of new concepts and processes that add value. This means that many of the building projects currently being offered focus on enhancing the performance of existing physical settings to a much greater extent than previously - with the drop in financial resources available for new building projects in recent years.

The challenge is how we can generate resourcefulness that will provide new opportunities for development at a time that is also characterised by a focus on sustainability and resource optimisation. As we see it, the answer lies in the architecture - space creates results, if used strategically.

Sustainability

Sustainability is more complex than lower energy consumption, which is often the first thing on a client's mind. It is our experience at SIGNAL that an increasing number of clients demand other types of sustainability as well, which is why we work with the following types of sustainability: social-, building physics-, economic- and behavioural- sustainability.

By employing the Mental rebuilding concept as a working method before defining the building project itself - we are able to free up a vast amount of resources that relate to all the above mentioned aspects of sustainability. Unfortunately this is not always the way building project funds are allocated, perhaps because, with building projects, we always start by defining change as a construction project that only involves changes to parts of buildings, rather than seeing it as a change project



2.根据上述3个主题，把每个步骤赋予一个相应数值，我们就能读出建筑外形、行为改善和变更管理所带来的不同的权重指标。

3.赋予每个步骤一个时间表，如“马上”、“一段时间以后”或是“将来”。

思维重构=价值创造

思维重构给出了优化的新的可能性。应用在建筑外形的构思上则包括对空间和多功能联合设施的灵活使用、对新功能的集成、把使用权缩小到平方米级的变更，并对建筑进行可能的灵活变动以创造修正的机会。对于学习环境来说，我们能使校园整天都处于活跃的气氛下，对社会可持续性的关注也能减少辍学率等负面效应。

在实践了不同的校园发展策略之后，我们时常发现身边总还是有一些没有被利用到的资源。相信通过改变习以为常的对空间使用的习惯性想法，

that also involves changes in how people use the buildings.

But what does sustainability mean in connection to building conversions? And how can future wishes and requirements regarding sustainable solutions be accommodated? We focus on the relationship between the operation of a building and various sustainable measures relative to the organisation's values and focus areas.

Mental Rebuild = value creation

The mental rebuilding gives new possibilities for optimizing. When it comes to building physics it gives a flexible use of space, multifunctional joint facilities, integration of new functions, a challenge of ownership to square meters, and the possibility of a flexible and moveable inventory in order to create a greater amount

我们能够创造出承载更多新功能设施、学生和教学需求的空间。

一个很好的例子是把一个个为个人量身定做的空间转换成为一个灵活布置的公共空间，并且把死板僵硬的工作方式转换成有活力的作业制工作方式。把功能分离的空间使用方法调整成空间共用模式，并在这种环境中倡导多部门协作的工作方式，从而和个人单独工作相比，更能弘扬团队文化。

我们着眼于对已有建筑的优化设计，并引入交叉学科的工作学习方法，在把规划细致到平米级别和改善学习理念的同时，致力于空间和认同感的营造，于是我们就能创造出一个良好的教育环境。

很多教育机构都怀有“小投入，大回报”的理念，我们能够帮他们使自己的教育机构达到最大化的吸引力。通过着眼于现有空间，我们能够把设施带给最明白自身需求的终端用户。毫无疑问，最具有可持续性的长期方案是对已有建筑进行磨合和改进，而不是不断重复建设新建筑。

三个案例

以下三个案例都涉及到了学习环境的建设，能够在我们的开发更好学习设施的主旨下，实战检验我们的策略方法。三个案例都涉及到了新设施的建设和对已有建筑的优化及创新性重规划。

案例一：在一个虚拟校园环境中，结合变更管理和创造新学习环境的理念，把不同类型的教育引入到一个共享学习环境中。

案例二：进行建筑的战略性优化。

案例三：进行思维重构：不新建任何设施，通过改变终端客户的习惯和行为模式，在已有建筑中发现新的可利用资源。

我们认为现今的空间概念是和我们在学习工作环境的愿景紧紧相连的，即灵活创新、进取多元和作业制体制。总之，我们必须弄明白我们为什么要创造一个合作的空间和建筑形式。（By: Gitte Andersen, CEO of SIGNAL Architects / architect MAA / building economics MDBcase_01）

案例一：

丹麦大学的一个学院想要运用一个新的校园策略来运营一些建筑，这个策略包括为未来设计新的学习、工作和知识分享环境，以便吸引更多的学生团体。策略必须建立在学院位于哥本哈根市中心的9栋建筑组合之上，主要是对已有建筑进行优化。

SIGNAL设计了一个用户导向型的互动性活动，参与人员包括董事会、教师、行政人员和学生。活动分为四个不同的阶段，每个阶段都契合学院的发展愿景。

首先，SIGNAL对大学学院的9处已存建筑情况进行了观察和定性评

of teaching opportunities. For the learning environment the gains are an active campus throughout the whole day and many other side effects such as minimizing drop-outs due to our focus on social sustainability.

Through our work with different Campus strategies we often see, that there is a great amount of unexploited resources, which can be turned into new opportunities and support the strategy. We can prove, that we are able to create space for new functions, extra teaching offers and more students - by challenging habitual thinking about how space is used on a day to day basis.

A shared feature is the desire to shift from personally-owned, tailor-made spaces to flexible common spaces and go from fixed work routines to activity-based, dynamic work. Furthermore shift from function-split use of space to common use of space and nourish a team-based multidisciplinary work in physical settings that can facilitate networking cultures - rather than individuals working alone. Thus our goal is to create an environment where fixed habits and roles are challenged and interlaced by new ones.

By focusing on optimisation of existing buildings, and bringing in cross disciplinarily working and learning, by challenging ownership to m2, the perception of learning and by working with space and identity - we can create better pedagogical learning offers.

It's about maximizing attractiveness at a time where most educational institutions find themselves having to do more with less. By focusing on existing spaces we can deliver more facilities to end-users that closely match their actual needs. And there is also no question that the most sustainable long-term solutions often involve adapting and involving existing buildings, rather than constantly doubling our footprint in new construction.

Three cases

The following three cases, all concerning learning environments, give a more specific insight to our strategic approach, when it comes to developing better learning facilities. Common for all of them is our way of working with space as a strategic tool in change processes that add value to clients and end users - whether it involves the creation of new facilities and/or the optimisation and innovative remodelling of their existing physical facilities.

case_01

Combining visions for new learning environments and change management in a campus fudge process - bringing different educations together in shared learning environments.

Case 02: Working with strategic building optimization.

Case 03: Finding new resources in existing buildings without rebuilding anything else than habits and the behaviour of end-users - a mental rebuild.

We see that space today is connected with a desire to establish flexible / creative / multiple / activity-based working and learning environments - maybe in the realisation that knowledge sharing, creativity and innovation can't be instructed, but only promoted. And that requires a design of space in change - why we must create co-operative spaces and architecture.

A study of new possibilities - creation of a campus strategy

Who: Danish University College

What: Campus strategy

Where: Copenhagen

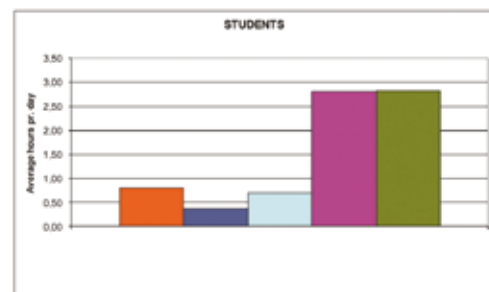
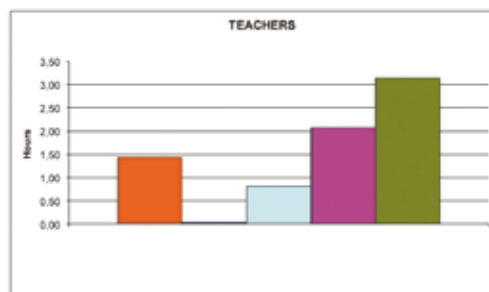
How: Analysis, observations and workshops

教师：28%教学，42%远离学校范围，30%其他情况
学生：37%上课，38%远离学校范围，25%其他情况

教师：0.4%合作教学
学生：5.0%协作学习

TEACHERS: 28% TEACHING, 42% AWAY FROM CAMPUS, 30% OTHERS
STUDENTS: 37% TEACHING, 38% AWAY FROM CAMPUS, 25% OTHERS

TEACHERS: 0.4% COLLABORATION
STUDENTS: 5.0% COLLABORATION

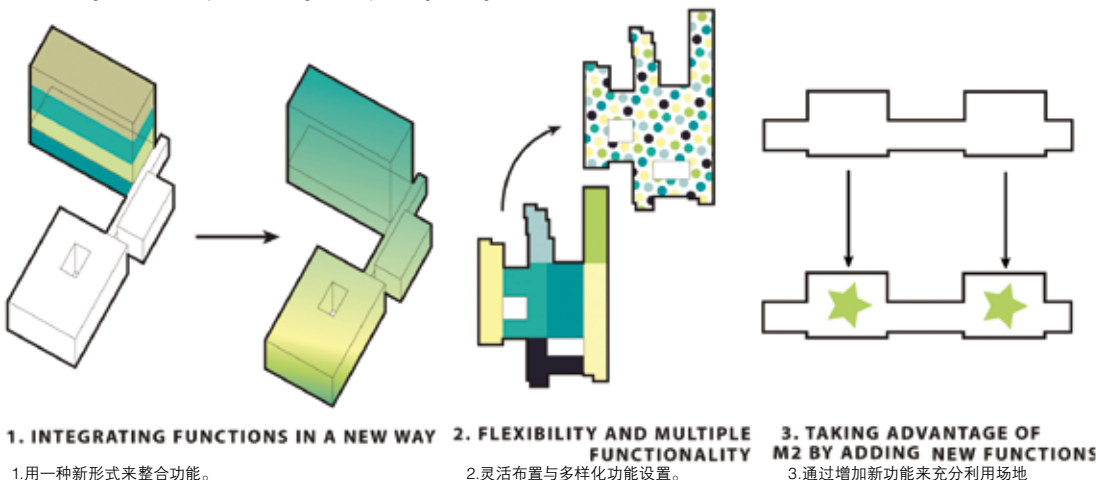


Campus is being used minimally by teachers and students outside teaching hours. They are either in classes or at home. Activities other than teaching are preferably being performed alone - especially by teachers. The students and teachers each define very little of their work as "cooperative". Registration of work situations during a normal day

在教学时间外，学生和教师对校园的利用率很低。受访人员在独处时最不愿意参与的活动是教学活动，这一情况尤以教师为甚。在学生和教师中很少有人用“合作”一词来形容自己的工作。（皆以一个正常工作日的活动进行取样）

案例一：所有人等时情况下的分析与计算

All three diagrams are examples on strategies for optimising existing areas.



估，并调取了所有用户的真实数据信息，得出的结论是：建筑有20%~50%的潜在空置度。根据这个结论，为了优化建筑的使用情况，一大批建筑设施可以关闭或是缩小规模。这不但会为学校节约经费，而且优化了不同部门间的交流及合作。同时，空闲的建筑场地现在被用作一个新式学习场所。

而后，为了把建筑当作吸引新学生的竞争筹码，SIGNAL调研了研究群体的实际需求与愿望。通过访问、分组讨论和以用户为中心的活动体验，SIGNAL归纳出了学生对未来校园的需求。这些需求和愿望被采纳进了校园规划策略里。

第三阶段是重新思考学习、工作和知识分享环境，并着手进行改善。在这个阶段，SIGNAL设置了三个跨学科的讨论组，涵盖了校园里各类型的人群，他们会对校园的硬件设施给出具体的建议。

通过对建筑的设计，讨论组致力于拼建出一个涵盖未来学习和工作环境的情境，这个情境要能容纳拥有不同技能的人群。这些工作为第四阶段打下了基础。在最后一个阶段，用四个相互补充的未来情境来描述真实的校园策略，在紧抓周围环境的情况下，跨建筑与学科进行思考。

对于每一个未来情境，要包含100个具体的创新事物。每个创新事物在短期、中期和长期三个维度促进了愿景的实现。另外，每个行动规划的概述都包括完成资源的变更管理所需的知识、为提升愿景所采取的努力和采取具体行动的经济可行性分析。

总之，当校园策略被当做日际或年际的工具优先使用时，对于实现和提升校园的愿景是大有裨益的。校园策略能显示各个教育项目的具体需求及其变化，同时提供每日建筑资源闲置的情况。另外，只要有新的需求出现，校园策略就能提供每个相应的新规划所需的变更管理、领导组织、经济花费和硬件设施的信息。

案例二：

丹麦大学的另一个学院聘任SIGNAL为其三栋教学楼进行策略性优化。SIGNAL树立了一个基于空间规划分析的设计概念。根植于思维重构理念，不用移动一片墙而只需改变对建筑的使用习惯，SIGNAL为建筑优化开辟了一系列的可能性。一个建筑的策略性优化目标：

- 落成的建筑要促进社会学习风尚的发展，尤其是在减少辍学率方面。
- 建立能反映校园工作流程的管理站，用相应的辅助设施监督校园工作。
- 建立能促进灵活多样学习方式的硬件学习环境，并隔天（年）进行使用优化。
- 激活走廊和其他未使用空间的利用，使整个建筑面积被多元化使用，营造出合理的面积使用率。

A Danish university college wanted to create a new campus strategy containing the elaboration of new learning, working and knowledge sharing environments for the future, as well as they wanted to use architecture strategically to attract more students groups. The strategy had to be based on the university college already existing building portfolio of nine buildings all centered in Copenhagen, as well as it had to optimize of the use of the buildings.

Based on the vision for the future of the university college stated by the executive management and the board of the university college, Signal created a user-centered participatory process which involved the board, teachers, administration staff and students. The process was divided into four different stages that all together supported the vision of the campus.

First, Signal did a mapping of resources in all of the university college's nine existing locations.

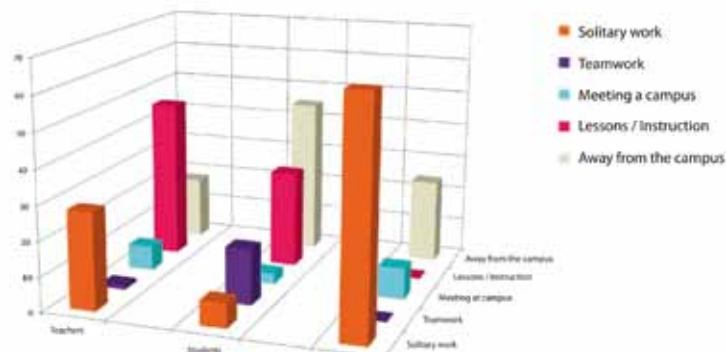
Based on qualitative evaluations of the buildings, observations, booking data bases and factual information on all users Signal identified a free build potential of 20% to 50% of total m2. This potential is now used to optimize the use of m2 so that a number of locations can be shut down and related programs merged into fewer locations. This did not only save the campus a lot of money, but also optimized the interdisciplinary work and collaboration between the individual programs of the campus. At the same time the vacant m2 is now used for a number of new features for learning spaces.

Second, Signal identified the needs and wishes of a group of postgraduate students in order to use architecture as a competitive parameter to attract new students. Through interviews, workshops and user-centered exercises a number of needs for the future were revealed. These needs and wishes were incorporated in the campus strategy.

The third stage was to rethink and improve learning, work and knowledge sharing environments. At this stage Signal created three interdisciplinary workshops that involved all segments of users of the campus which resulted in a specific vision for the physical environment.

Excises of the workshops included working on a number of future scenarios that all

案例二：校园建筑使用的策略性优化（三个图表示对已存区域的优化策略）



The above diagram shows, whether you're a teacher, student or working in the administration, that the work process is never something that you perform in just one place.正如上述柱形图所示，无论你是教师、学生或是管理人员，工作和学习过程不能只在一个地点完成。

• 策划相关理念与活动，把建筑公共面积转变成连接周围环境的通道，并建立实践导向性的教学活动，保持校园对外界的开放。

为了更有效地工作，SIGNAL把规划分成四个阶段实施。第一阶段组织研讨会，由学校管理人员定义项目成功的愿景和标准。第二阶段要通过观察、互动活动和信息数据收集的方式，发掘校园未使用的资源；最终基于对建筑和行为的不同理解，给出一系列供选择的方案。第三阶段组织涵盖校园各个群体的跨学科讨论组，根据第二阶段得到的信息汇总一个列表，学生根据现有的硬件条件，在列表中选择仅仅通过改变行为习惯就能实现的建筑新功能和相应活动；这将促使一批建筑创新的出现，进一步提升校园未来的学习、工作和研究环境。

在第四阶段也是最后一个阶段，要提出具体的设计方案。根据讨论组

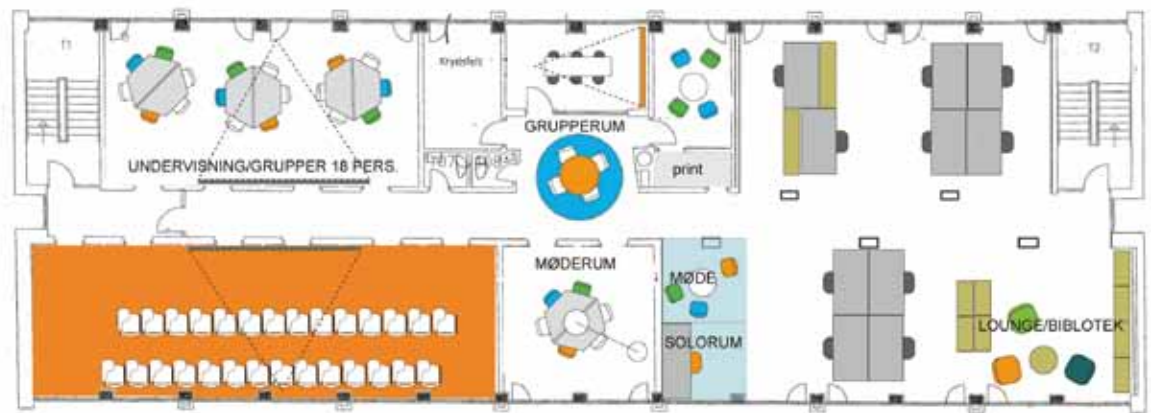
linked learning and work environments, as well as access to people with different skills, with the design of the architecture.

The results of this stage informed the work of stage four.

At the last stage the actual campus strategy was described in four strategic future scenarios which complemented each other, but still focusing on thinking across locations and educational programs, as well as hook into the local area.

For each future scenario a number of specific initiatives – a total of 100 initiatives – were included. Each of which promoted the vision in short, medium and long term. In addition, outlines of each plan of action contained knowledge of what is required in relation to resources for change management processes, the behaviour of the initiative carries in relation to promoting the vision, and an assessment of the economy for the initiation of the specific initiative.

All in all, the campus strategy is promoting and supporting the vision of the campus as it is being used as a daily / yearly prioritization tool - displaying specific needs and changes in educational programs, as well as providing an overview of vacant

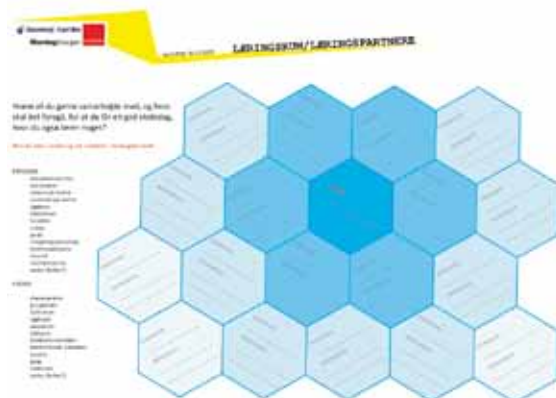
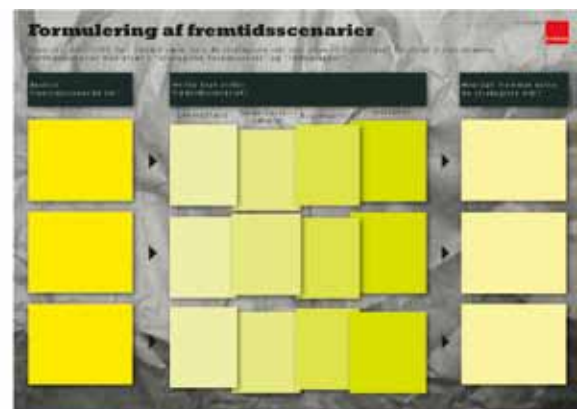
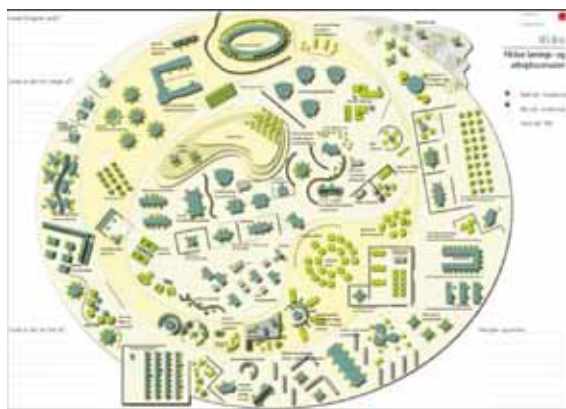


Flexible learning rooms

Group and meeting facilities

Activity-based work spaces

An example on flexible and multiple functionality- combining different types of learning environments



案例二

Examples of SIGNAL's WORKSHOP TOOLS

的结果和以往对未利用校园资源的归纳,对于校园装饰提出一揽子的创新方案,使校园面貌焕发出崭新的气象。

通过把思维重构的概念运用到建筑策略性优化上,会产生一系列令人惊奇的方案。这意味着可以在已有3处地点600名学生的基础上再加入300名学生,同时可以建立一系列供学习的场所。

通过灵活安排专业教室的使用,可以使房间的利用率从20%上升到70%。通过打破原来校园建筑对每层的使用惯例,可以在每一层创立一个跨学科环境,包括办公室、教室和自习室。这种思维方法会使校园环境的利用率更高,同时增加人际关系的交流并增强人的归属感。备课室的设置能让教师在课余时间也能呆在校园中与学生交流。通过明晰建筑空间的“归属感”,即明确不同团体各自的活动场所和公用场所,就可以为不同的教学风格匹配相应的教学环境。

运用思维重构方法不但能创造出更好的学习、工作环境,而且能开发出创新性的康复中心。康复中心为人们提供康复训练,并为校园周围区域的居民提供生活健康咨询。康复中心加强了校内外人员的联系和交流,并让学生在实际活动中感受到帮助他人改善生活状态带来的乐趣。

案例三: 思维重构—减少建筑面积

一个挪威的学院联系到SIGNAL,要求从现代学习环境的角度,评估分析校园现有建筑的硬件状况和资源分布。SIGNAL运用机会策略的方法,基于校园的运行机制和愿景,最终以一个数据文档和图表的形式呈现出建筑新方案及使用方式。SIGNAL运用思维重构的理念减少了5 000m²的空间使用,进而释放大批潜在的空间为学生建造新设施和新教室等。除此之外,SIGNAL还能在面积已减少的空间内多容纳300名额外的学生。

SIGNAL首先核查了已有的校园需求,制订了相应的发展计划。具体工作包括明确校园的发展策略和愿景,研究人群受访记录和已有材料,以确保发展计划严格按照校园的发展策略和愿景进行。

然后,校管理人员和挪威政府建设部首席顾问Statsbygg出席了专案启动大会。大会明确了校园运作成功的着力点与最终标准,集中讨论了资源配置、公共参与、方法透明公开等问题,同时提到了在方案施行时需要特别注意的关键节点成果和风险。会议成果包括统一运作时间表和活动安排,明确主要的事件节点。

综合目前所掌握的所有信息,SIGNAL设计了用户导向型工作形式,包括随机访问、调研观察、建立跨学科讨论组和雇员自主式登记工作流程。随机访问能够定性描述用户的需求信息。调研观察能够定量描述校园建筑的实际情况,定量评估建筑资源配置和其开发潜能。建立涵盖校园各群体代表的跨学科讨论组,对未来校园空间使用的愿景达成一个共识;讨论组以对话运用为形式,鼓励大家对空间使用提出独到的见解,参与者要灵活地进行全盘思考,构想出校园未来的情境;讨论组的结果将包括一个关于空间使用减少情况的最终估计,一个校园使用情况的全盘优化策略,一个考虑资源与可行性并涵盖愿景、策略与需求的总评报告。

building resources stretching over the day. Furthermore, the campus strategy is being used whenever new needs occur and provide an overview of what each initiative requires of change management / leadership involvement, economy and building physics.

case_02

Strategic optimization of use of campus buildings

Who: Danish University College

What: Strategic optimization of the use of campus buildings

Where: A larger city in Denmark

How: Space plan analyses, counselling and design concept

Another Danish university college hired Signal to do a strategic optimization of three campus buildings. The aim was to use the architecture more effectively. For this job Signal created a design concept based on space plan analysis. Rooted in the concept of The Mental Rebuild Signal identified a number of possibilities –

this without moving a single wall and only by challenging the behaviour of how the architecture was being used.

A strategic building optimization aims to:

- Establish architecture that promotes a social study culture, which reduces the dropout rate.
- Establish administrative workstations that reflect workflows and the actual presence on campus complemented with facilities that support activity based work.
- Establish a physical learning environment that enhances flexibility and diversity, as well as optimize on the use over time of day / year.
- Activate the walking areas and other unused areas, so that the total building area is optimized in relation to multiple use possibilities - the creation of a positive density.
- Establish concepts and activities that use the common areas in ways which connect to the surrounding neighbourhood and makes the teaching practice-oriented as well as opens the campus to the outside world.

To work more effectively Signal divided the assignment into four stages. First stage was a workshop for the executive management of the campus, which revealed the vision and criteria for success of the project. Second stage was to reveal unused resources on campus. This was done through observations, using participatory activities and collection of data materials. The results were a number of options related to the understanding of behaviour and architecture. The third stage involved the users of the campus through interdisciplinary workshops. Based on the knowledge gained at the second stage, the students worked with the formulation of a number of new activities and functions that could be implemented in the existing physical environment solely by changing behaviour. This resulted in a number of initiatives all of which promoted the vision in relation to the future learning, work and study environments of the campus.

The fourth and last stage was to make specific design proposals. Based on the output from the workshops and the previously revealed untapped resources on campus - a catalogue of ideas on decorating and suggestions of a number of new features on campus was created.

By using the concept of The Mental rebuild in relation to the strategic building optimization a number of surprising options were produced. This showed that it was possible to integrate additional 300 students on top of the 600 students who already were at the three locations, as well as it was possible to establish a number of places for the students to study. Further, by focusing on flexibility in specialist classrooms it was possible to go from 20% utilization to 70% utilization of the rooms. By challenging the approach of the need for narrowly functions on each floor of the campus, it was possible to create an interdisciplinary environment on each floor, which contains both administration, classrooms and study rooms for the students. This way of thinking created an environment of positive density that enhances feelings of relationship and belonging throughout the campus. This was further strengthened by the new possibility of making study preparation rooms for both teachers and external teachers, which allowed the teachers to be visible on campus outside the teaching hours as well as to become closer and more available to the students. By challenging the ownership of m2 – meaning to go from a feeling of which m2 that belongs to different groups to a jointly owned m2 - it was also possible to establish a series of different learning environments that each supports different pedagogy learning styles.

Not only was it possible to create a better learning and work environment, it also produced innovative ideas like the establishment of several practice labs. These offer free physiotherapy, free diet advice and counselling on a healthy life to the people of the neighbourhood of the campus - which in both strengthened the relation between the life inside and outside of the campus and gave the students a real life experience and a feeling of doing a positive difference in other peoples life.

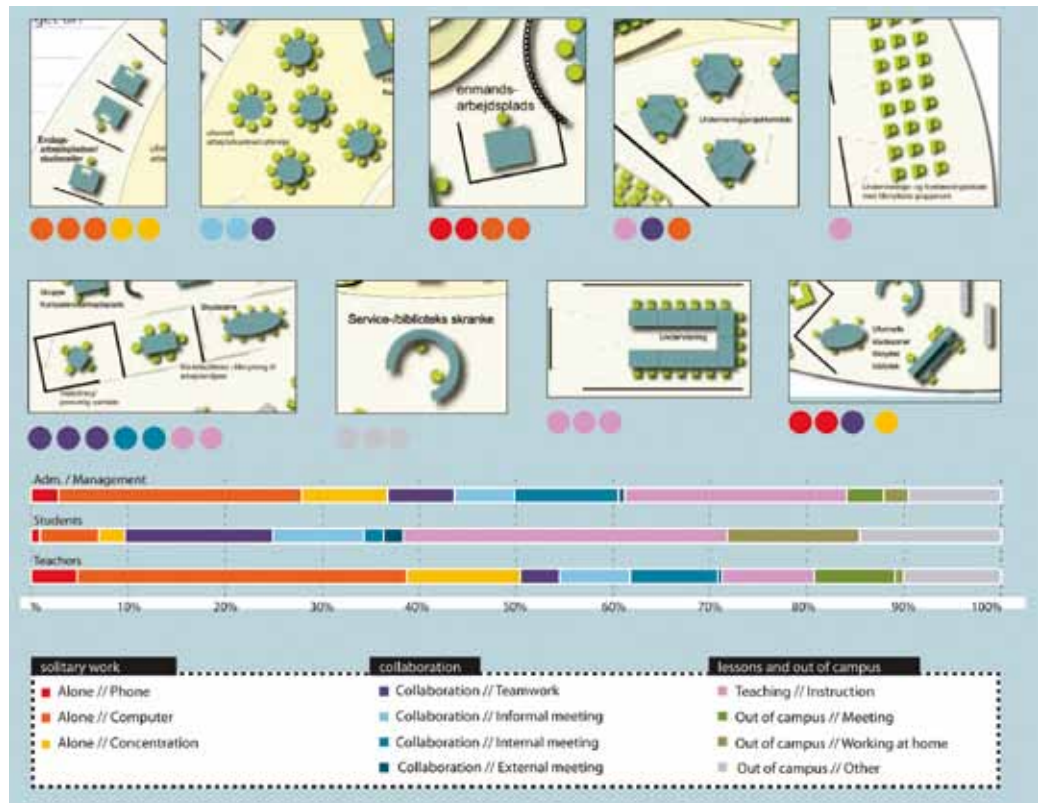
case_03

The Mental Rebuild_reducing m²

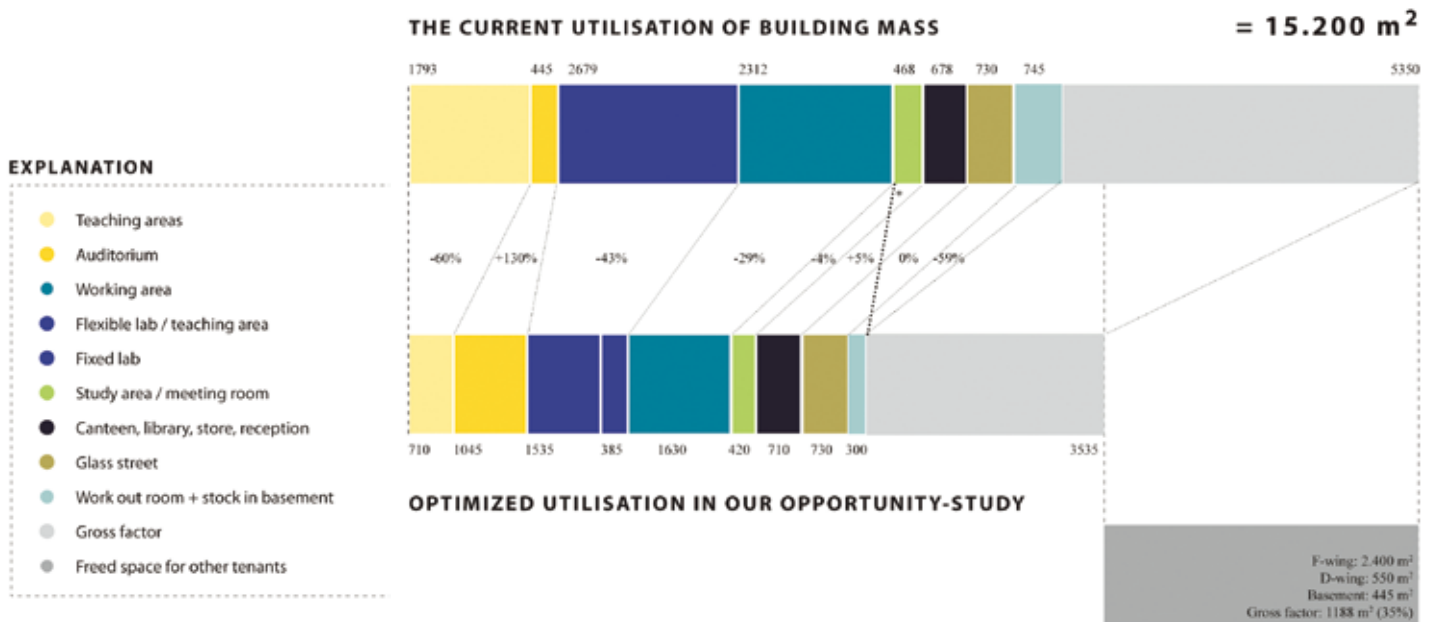
A Norwegian College contacted Signal as they wanted an overview of the present architecture of the campus in relation to its physical qualities and resources as a modern learning environment. Signal developed an opportunity strategy which in the end was presented as a visual catalogue containing text and illustrations of new options and behavioural use – all based on the strategy and vision of the campus. In this case Signal also used the concept The Mental Rebuild and by using it, Signal showed that it was possible to reduce the total use of space with 5,000 m², which unleashed a great potential for creating several new facilities for students and new classrooms, etc. In addition to this, Signal showed that it was even possible to create room for 300 extra students inside of the already reduced m².

First thing Signal did was to scrutinize already identified needs and create a plan for the process. This work consisted of looking at the vision and strategy of the campus, reading through interviews and previously prepared material, ensuring that the further process was based on a thorough knowledge of the vision and strategy of the campus.

Second, a kick-off meeting was held with the executive management of the campus and Statsbygg (Norwegian Government's key advisor in construction and property



Furniture scenario – linking the users typical work and learning situations with space and furniture.



案例三

= 4.583 m²

affairs) where the priorities and criteria for success of the campus was cleared by focusing on resources, involvement, clarification of methods as well as localization of milestones and risks during the process which needed special attention. The output of this was clarification of the retail calendar, activities, and overview of the priority factors.

By using all the information gained so far, Signal was capable of designing an user-centered process including interviews, observations, interdisciplinary workshops and self-registration of workflows by the employees. The interviews provided qualitative information on the user's needs and wishes. The observations provided quantitative information about the factual use of the architecture of the campus

as well as qualitative assessments of the building's resources and potentials. The interdisciplinary workshop, where representatives of the different groups of users of the campus were represented, focused on formulation of visions for the future use of space. The dialogue-based exercises used on the workshop gave room for discussions concerning use and different point of views on space, and the participants were challenged into thinking of a number of new future scenarios based on flexibility and holistic thinking. The outcome of the workshop was used to create a final estimate on how to reduce the use of space and an overall strategy for optimization of the use of campus and a catalogue linking vision, strategy and needs with the opportunities and resources. 