

## INTERIORS

*The modern office design focus is on creating a work environment that increases productivity, reduces costs and fosters innovation. With rising cost of real estate, optimizing the workspace too has become a crucial factor. Not surprisingly, open plan layout with modular furniture has become the hallmark of how we work today.*





# Modular

The culture of collaboration and interaction, high technology and economic practicality are the key drivers of the latest products in the workspace furniture design. The trend in office space is to build smaller and smarter workstations in a way that they do not occupy much space and yet have enough room the worker needs. While, the typical work cubicle till recently averaged eight feet by eight feet or larger, it is now reduced to six feet by eight feet or even six feet by six feet work station. The drastic reduction in measurements has been made possible by the latest designs in the modular office furniture which include European-style benching system, lower modular screens, work desks and pre-engineered cable and raceway management among others. Workstation configuration which was earlier a challenge is now easily addressed with modular workstation systems with different angles and sizes to fit any requirement and design.



# Workspaces

Multiple color storage units  
from Bleu Concepts



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Since products made from modules have the ability to be augmented, it adds flexibility to the design. An important feature of well-designed modular furniture is its ergonomics which decides the height and depth of units and also which module should be placed next to which module for maximum comfort and efficiency.

– Manish Jain

According to [Manish Jain, Director, Bleu Concepts](#), “The biggest advantage of modular systems is that they offer clutter free and well organized intelligent spaces which gives a feel good factor to the user. For example, Bleu Concepts range of Build-me-up storage units can be altered as desired by simply changing the placement of a drawer or a shutter to get a new design altogether.”

While, the right furniture is integral to making office environment comfortable and productive, going modular is the most efficient way to accomplish flexibility in office design agree designers. In fact, India’s interior industry is heading towards high-end, low maintenance and quickly installable products, with customization options to cater to the specific needs of the clients. [Swapneel Nagarkar, Sr. Vice President, Marketing & Sales \(B2B\), Godrej Interio](#) says, “The trend earlier was more cubicle based design. Today, offices are predominantly open spaces with low wall heights. Partitions are open from below for effective conditioned air circulation and steel that absorbs heat and cold has been replaced by particle

board and MDF. With employees traveling and working from home, there is also a clear drift towards mobile offices and shared workspaces rather than individual workstations.”

As [Umesh Rao, Founder & CEO, Vector Projects \(I\) Pvt. Ltd](#) puts it, “Commercial modular furniture is now evolving from a floor-up full panel partition system with front and side screens to open desking system with low screens on table tops to create an open workplace. Also, with space constraint and the increasing cost per square inch in commercial spaces, the requirement for flexibility has increased. For example, a space designed to seat two employees should be easily expandable to accommodate three to four in the future. Thus, the biggest advantage offered by modular furniture is flexibility which is built as modules that can be connected to expand the set-up, increase or decrease heights and attach various accessories or specialty equipment to enhance its functionality. Artmatrix the in-house modular office furniture brand of Vector Projects can be identified by its neat clean lines and clear art designs. Trend-X pro system and our newly launched I-beam system are the latest designs. All our products are 100% recyclable and can be recovered for reuse.”

Multi-colours of storage units from Bleu Concepts



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### The functional advantages of modular systems include:

- Flexibility: Modular systems can easily be switched to accommodate new technology or to modify aesthetics of an interior space. The system can be reconfigured to meet changing layouts or relocation to fit the new space.
- Cost Savings: The efficiency of these systems is what translates into cost saving for the organization. In the long-term it saves on real estate cost by reducing or maximizing the square footage needed for job performance.
- Speed: The speed of delivery along with phased approach option minimizes the time needed for the new construction. The modular elements are quickly and easily reconfigurable to accommodate ever evolving workspace needs.

– Swapneel Nagarkar



Another reason, for increasing popularity of commercial modular furniture is its convenience and reliability. As it is machine cut and factory made, finishing is generally better and cleaner than custom made furniture. Plus the added advantage of having the site available for other interior works shortens the fit out process. [Anshuman Bhargava, Director & Creative Head, The Blue Leaves Design Group](#) agrees, "A module is a complete unit in itself. Addition of more modules increases the usable space. This way the modular furniture provides ample scope for enhancement as well as reduction of the modules as per requirements. It also lends itself to easy maintenance and as materials used are usually light weight but sturdy, they can be fixed or removed without damage. Modular office furniture standardized dimensions are based on optimum and ergonomic use of space. Also, modular systems integrate electrical and wire management systems, working counter, display and storage to provide one complete working unit by itself."



Two color wall storage unit from Bleu Concept



### Modular furniture is definitely more cost effective than standard furniture for the following simple reasons:

- It is mass produced and because of the sheer volume, there is a major impact on cost saving vis-à-vis standard furniture.
- It is easy to handle and install and can be reconfigured, shifted and reused in different locations.
- It is also beneficial as it arrives completely finished in a knock down condition and can be erected on site without hampering the site works.

– Umesh Rao



### Furniture Specifics & Green features

The proper ergonomics of office furniture takes into account design considerations like the keyboard placement, computer level, chair height & back support and filing cabinet height. The right combination of all these things can help reduce minor aches and pains as well as larger issues such as arthritis and carpal tunnel. "Ergonomics of furniture design and human scale is considered to determine table widths, heights, storage, sizing, partition heights and reach and especially in chair design for comfortable working and seating to enable long time working. The latest designs in modular office furniture include Herman Miller's resolve and canvas series, Haworth's besides and patterns series, Teknion's Interpret

desking systems and Nurture regard seating system. Reputed manufacturers are now more sustainability conscious than ever before and hence the use of greener materials in laminates, support systems, fabrics, powder coatings and gluing systems. All these have very low VOC thereby resulting in no damage to environment. Further, modular furniture does not use solid wood making it a highly sustainable product," says Bhargava.

Nagarkar adds, "The flexible modular systems enable offices to meet the changing dynamics of the work environment, often driven by technology. They also allow the opportunity to allocate space based on function, beyond the traditional allocation of work position. The modular furniture pieces are designed to fit together in any number of different combinations. This means that we can rearrange





**Modular furniture is a standardized product and there is not much scope for high customization within the module itself. Corporate brand identity can be incorporated**

**in the modular furniture through workstation design such as:**

- Style of workstation: modern, traditional, straight line, free form, standard I-shaped format or more rectilinear or counter based.
- Arrangement of modules: regular, open plan or cubicles
- Materials: steel, wood or laminate
- Colours: colour of work counters, storages or pinup boards
- Supplementary design elements: partitions, wall colour, fabric or leg style can radically change the look of the office

– Anshuman Bhargava

our office furniture as per need. We can hide data cables and connectors throughout the wall of modular furniture. It also offers adjustable furniture settings for chair and keyboard height etc. Moreover, from improving air quality for employees, to earning LEED points, modular design composed of durable materials offers environmental benefits and sustainability by eliminating unneeded waste at each phase, from construction to reconfiguration. Godrej Interio products are GreenGuard certified based on comprehensive emission criteria from the EPA, Germany's Blue Angel Program, State of California and reputable public health expert agencies. Also, products are monitored quarterly and yearly to ensure low chemical emission."

Rao states, "Undoubtedly, ergonomics is very important in office furniture. As technology advances, shapes and designs of tabletops etc too change. Therefore, chairs should be adjustable as per the employee's preference and workstation curves, partition heights, lighting all need to be modifiable. For example, the use of I-Beam in creating flexible modular workstations ranges from cluster configuration of four workstation, L-shaped cluster workstation to linear workstation and 120 degree workstation. I-Beam can also create innovative combination of conference tables and sitting bench & storage elements. Similarly, Innove is our eco-friendly range of executive chairs available in high back, medium back and with cantilevered base options. The chairs also offer adjustable armrests and synchronized multi locking mechanism." ➤

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## Ergonomically-friendly Office

Office furniture should be designed to facilitate task performance, minimize fatigue and injury by fitting equipment to the body size, strength and range of motion of the user. It helps promote effective interaction among people, technology and the environment in which both must operate. The furniture should be task specific to eliminate:

- Static or awkward posture
- Repetitive motion,
- Poor access or inadequate clearance
- Displays that are difficult to read and understand
- Controls that are confusing to operate or require too much force

The design objectives of office interiors aim at enhancing human abilities, foster user acceptance and overcome human limitations. Therefore, furniture selected should be according to the type of task performed and be adaptable to multi-purpose use.

### Chairs

**Seat Height:** Seat height should be pneumatically adjusted while seated. A range of 16 - 20.5 inches off the floor should accommodate most users. Thighs should be horizontal, lower legs vertical, feet flat on the floor or on a footrest. Seat height should also allow a 90 degree angle at the elbows for typing.

**Seat Width and Depth:** A seat width of 17-20 inches suffices for most people and should be deep enough to permit the back to contact the lumbar backrest without cutting into the backs of knees. The front edge should be rounded and padded. The seat slant should be adjustable (0 to 10 degrees). Avoid bucket-type seats. The seat should swivel easily.





**Backrest:** The backrest should offer firm support, especially in the lumbar (lower back) region, should be 12-19 inches wide, and should easily be adjustable both in angle and height, while sitting. The optimum angle between seat and back should permit a working posture of at least 90 degrees between the spine and thighs. Seat pan angle and backrest height and angle should be coordinated to allow for the most comfortable weight load on the spinal column.

**Seat Material:** A chair seat and back should be padded enough to allow comfortable circulation. If a seat is too soft, the muscles must always adjust to maintain a steady posture, causing strain and fatigue. The seat fabric should "breathe" to allow air circulation through clothes to the skin.

**Armrests:** Armrests are optional, depending on user preference and task performed. They should not restrict movement or impede the worker's ability to get close enough to the work surface. The worker should not rest his or her forearms while keying.

## Workstation

Correct work station height depends upon the user and upon the chair and other factors that interact with the user and table. Ideally, the user should be able to sit at the work station with the keyboard in place and be able to easily maintain a 90-100 degree elbow angle and straight wrists while keying. The height of an adjustable keyboard support should adjust between 23" and 28" to accommodate most-but not all-users. 26" is a recommended compromise position while leg clearance must still be considered.

**Leg room:** Knee spaces should allow a worker to feel uncrowded and to allow some changes of position even

with the keyboard support lowered to the correct level for use. The knee space should be at least 30" wide by 19" deep by 27" high. Likewise, depth of the "clearance envelope" for both legs and toes should be evaluated while the workstation user is in a normal working position at the work station (determined by the design of the seating system and the way the user sits). Drawers and support legs (for furniture) should not go where human legs need to fit.

The work station top should be big enough to allow space not only for all computer-related necessary equipment, but also for paperwork, books, and other materials needed while working at the computer. Frequently used items should be kept close to avoid long reaches. A general recommendation is that the work area top should be at least as big as the standard office desk - 30 inches by 60 inches. A depth of at least 30 inches allows flexibility in use/reuse of the work area. Usable space is maximized by good wire/cable management.

## Accessories

**Footrest:** Situations will arise in which a user is perfectly adjusted for keyboard use and with the monitor at a correct angle, but his/her feet do not rest flat on the floor. A footrest may be used to correct this problem.

**Document Holder:** Use a document holder instead of resting copy on the table top. This helps to eliminate strain and discomfort by keeping the copy close to the monitor and at the same height and distance from the users face as the screen.

**Wrist Rests:** Placing the wrists on a wrist rest while typing can create a bend in the wrists and pressure on the carpal tunnel. Wrist rests should have rounded not sharp edges and should provide a firm but soft cushion. BT

