

Trends for sustainable environment and contemporary industrial design (concepts and perspectives)

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introduction :

The twenty-first century is witnessing the culmination of human progress that has been paved by the numerous and successive developments throughout the past century, especially in its recent decades, to witness the achievement of remarkable human achievements at the scientific, technological, technical and informational levels. . These achievements imposed new ambitions for everything that is in circulation, as every age casts a shadow over what is in it. Therefore, the word (modern) was born as a symbolic expression of how well it keeps up with everything that is new and new, to become the origin of its era and its mirror that reflects everything new. However, sudden cases of change may cause a state of chaos and confusion in any system, especially the design system, and therefore these cases of change will enter the specialists of all planning branches, the most important of which is the design, with different forms, because here we are dealing with the unexpected and the unusual and the new. Therefore, these changes pose challenges to all establishments, including the industrial product, which must be linked to what is around it. The essence of the design idea is a proactive idea that is not without innovation and achieving a lead and keeping pace, at the very least. Because the design term is essentially parallel to the singularity of the future, we do not design for the past or the present, but rather establish for the future, whether near or far, and based on the above, the third millennium differs from the previous one, in terms of humanity's openness to each other and the exchange of scientific and technical achievements and experiences, but rather it is an attempt. Unifying international standards and legislations, to put us, the designers, in front of new and different forms where the importance of the growing industrial product with the increasing developments and requirements in the modern era and the tremendous rapid progress, as well as the human needs that are based on what these products can provide to them from the services of Pant It delves into even the smallest details that the modern man coexists with. This importance in its broad scope exceeded all those requirements that were based on transitive terms in that the formal, aesthetic, minimalistic and productive aspects, which have become an accepted axiom for any industrial product, no matter how simple it is, to envisage concepts New, the most important of which is the consumer behavior of modern man, his intellectual and psychological orientations, and his followers. A new culture has come to dominate all aspects of the era and its ideology. This is a promoter of methods of change, renewal and development of all kinds and relies mainly on the idea of acceleration in consumption, namely (the culture of consumption), especially since we are now in the era of globalization and quantitative production. The increase in the rate of consumption and what results from this consumption of high waste and waste, which may be non-degradable, which

leads to real imbalances in the ecological balance, which is reflected in the environment, and therefore one of the most important problems of the third millennium is environmental pollution, What we see of real dangers in the coming near future has led to the fact that the most important challenges and problems of this century are purely environmental challenges in a serious attempt by human civilization to fix what has been corrupted over the past centuries that have been characterized by the arms race, invention and discoveries, but without taking into account Due to the environmental damage resulting from it, the problem here stems from what the product will face in terms of challenges and requirements in the new century and the new conditions and provisions imposed on it stemming from the problems of the times and its needs and the extent to which the product can keep pace with all the upcoming changes and developments, and is subject to all the international conditions that have become It also controls it and its specifications and gives it the green light .. As all the products that surround the human being have a positive or negative impact on the surrounding environment, and accordingly, the trends to achieve a sustainable environment need the efforts of the designer. In order to preserve all its aesthetics and the intercalation of the interfaces, a new condition will be imposed on the designer, as he must reconcile the basic specifications of the product on the one hand with the environmental considerations on the other hand, without defecting any of them or at least finding a state of balance between all requirements.

Research problem :

The research problem lies in how to preserve the environment that gives continuity to women and achieve ecological sustainability, and what are the design trends for sustainable environment in contemporary industrial design to recreate the human present in the world.

research importance :

Industrial production and industrial products, and the pollutants that result from the environment are considered one of the environmental problems of our time, which is exacerbated by the day. In the concept of sustainable development, manufacturers of these products are required to take into account the environmental impacts throughout the entire product life cycle. Therefore, the importance of the current research sheds light on the design trends to achieve sustainable evidence, as well as the capabilities of the industrial designer and industrial design, in how to balance the requirements of industrial design and the contemporary industrial product in light of technological progress and between its negative effects on the environment, to achieve a sustainable environment.

The concept and strategies of sustainable environment The concept of sustainability:

The concept of sustainability means the optimum utilization of the available resources and capabilities, whether human, material or natural, in an effective and balanced inter-urban and

urban manner to ensure the continuity of sustainability without wasting the gains of future generations, as sustainability is the fulfillment of people's needs in the present without affecting future generations to meet their needs in the future.

William Rees defines sustainability as a form of positive change that does not affect social and political systems dependent on society.

We are in a modern, civilized world where a lot of natural resources are consumed daily and in city centers, we consume a lot more energy than we consume in the countryside, as the lights in cities remain illuminated, electrical equipment and appliances, heating devices and other equipment that need energy are used. electrical . This is not intended to say that sustainable living should focus only on people who live in cities, but rather that improvements should be made everywhere (it is estimated that we consume about 40% more resources annually than we can afford) and that this needs to make changes to maintain sustainability. These resources.

Sustainability and sustainable development focus on the balance between calculating needs, our need to use technology economically, and the need to protect the data in which it lives. Sustainability is not related to the environment only, but rather it is related to the health of societies and to ensuring that people are not subjected to suffering due to the internal legislation, with the need to choose the long-term effects of the actions of humanity. Sustainability and sustainable development In the year (19) the World Commission for Environment and Development (WCED) developed a report known as the Brundtland Report, which included a definition of sustainable development, which has become the most common: meeting the needs of the present without compromising the ability of future generations to meet their needs, and this definition was transmitted by many sources Concerned with the issue of sustainability, and despite the many opinions and criticisms issued after him, most of them remained in the orbit of this definition, but from different points of view that the definition established by the Brundtland Committee was from a holistic perspective emphasizing the importance of development, rather than focusing on the strategies that should be developed. To preserve the environment, while giving priority to countries that need development more than others, this definition refers to developing our ways of life and building in a way that is more respectful to the environment, through efficient exploitation of traditional and renewable energy sources and minimizing the harmful effects of energy use such as pollution and gases Toxic, Paradise Brandenland, through this definition, tried to marry economic development with the trends of preserving the environment and natural resources, which was called Pal Sustainable Tammanyah, by adopting two basic concepts:

1. **The first concept:** the concept of (needs) in accordance with the surrounding conditions to maintain an acceptable level of living standards for all human beings.

2.. **The second concept:** the concept of (borders) for the ability of evidence to meet needs at the present and in the future, which are linked with social organization and technological developments. The needs consist of basic needs such as food, clothing, population, and work, and every person in science has the right to He has the opportunity to experiment and raise his standard of living above these absolute minimum limits. The limits come from the potential of natural resources and the quality of productivity caused by the excessive consumption of resources, which affects the quality of resources and the reduction of biodiversity. So, the definition of the "World Commission for Environment and Development" concludes that in order to ensure our common future, the needs must be met without exceeding the limits of resources. Rather, it is better to work to reduce these limits. All this leads us to the necessity of setting political, social, and economic development plans. And technology in light of sustainability data based on these two principles, that is, development plans that fulfill needs that do not exceed the determinants of resources, this definition, which has become the most common in the world. Depending on the goal of setting it, but it shares the essence of the content. And so it is noticeable that the definition of sustainability or sustainable development often reflects the nature of the body that establishes that definition, its orientations, its competence, or its main field of concern on the global scale. It is so popular and glamorous that many governments have adopted sustainable development as a political agenda even if those agendas reflected very different political commitments towards sustainability, as the MEDA was used to support contradictory views on environmental issues. Such as climate change and environmental recklessness depending on the angle of interpretation, sustainability can mean different things, sometimes contradictory, to economists, environmentalists, lawyers, and philosophers, and so it seems that the compatibility between these views is still elusive.

But through the minimum common standards of definitions and the different interpretations of development, **four main characteristics can be identified:**

1 - That sustainable development represents a transgenerational phenomenon, that is, it is a transfer currency from one generation to another, and this means that sustainable development must occur over a period of time not less than two generations, and then the sufficient time for sustainable development ranges between 20 to 50 years.

2- The level of measurement, sustainable development is a process that occurs at several levels that vary (global, regional, local). However, what is sustainable at the local level does not necessarily have to be at the regional level, and what is meeting the requirements of sustainable development for a region, may not It is also global, and this geographical disparity is due to the transfer mechanisms through which the negative results of a particular country or region are transmitted to other countries or regions.

3- Multiple domains, where sustainable development consists of at least three domains: economic, interdisciplinary, and sociocultural, and although sustainable development can be defined according to each of these areas individually, the importance of the concept lies specifically in the interrelationships between those areas, The sustainable social development aims to influence the development of people and societies in a way that ensures the achievement of justice and the improvement of living conditions and health. As for sustainable environmental development, the main goal is to protect nature and preserve natural resources, while the focus of sustainable economic development is to develop The economic structures as well as the efficient will of natural resources, and the issue here is that these three areas of sustainable development seem to be consistent in theory, but are not so in practice. Likewise, the basic principles are also different. While efficiency is the main principle in sustainable economic development, justice is considered a focus of development. Sustainable social development, as for sustainable environmental development, emphasizes the resilience or potential capacity of the Earth to regenerate its resources This is the multiple interpretations of sustainable development, with each definition emphasizing an appreciation of current and future human needs and how to meet them. However, in reality, no assessment of these needs can be objective, let alone any attempt will be surrounded by uncertainty, and as a result, sustainable development can be interpreted and applied according to different perspectives.

General sustainability goals: A set of sustainability goals have been defined to achieve the set goals, **namely:**

- 1- Reduce consumption.
- 2- Improving technological efficiency. Re-use, rehabilitation and repair to create new technology
- 3- Reshaping human desires.
- 4- Satisfying human needs and aspirations.
- 5- Improving the economic viability of growth.
- 6- Matching user needs with design.
- 7- Create a healthy built environment.
- 8- Empowering people to meet their needs.

Conclusions:

The research reached a set of design trends for the product that enable industrial design to take promising steps in finding solutions to environmental problems through a number of new strategies and principles that it adopted in the production of industrial products.

1- Producing high-efficiency products based on the study of the surrounding environment and energy conservation, as the product becomes distinguished by the quality of materials, ease of use and beauty of shape, sustainable design places priority on health and the environment to preserve resources and product performance, and this type of products is of distinctive quality because its service life is longer than regular products.

2- Sustainable design is concerned with the use of materials that lead to a reduction in the destruction of the environment globally, by taking into account the characteristics and in terms of the absence or decrease of harmful elements or gases emitted from them, or the low toxicity of these materials from other regular products, and so-called environmentally friendly materials. In this way, the designer must have a new condition, as he must reconcile the basic specifications of the product on the one hand, and the environmental considerations on the other hand, without defecting any of them, and create a state of balance between all requirements.

3- The importance of materials is considered a fundamental factor in achieving sustainable products. The products must also be self-generating to compensate for the energy consumed. Therefore, it is possible to refer to nature and benefit from its models and patterns in how materials are used and methods of forming them.

4- By creating general coordination between the disciplines, as the strategy of integration of alternative energy with design is by following the holistic design strategy, which achieves the final goal required for the product. Benefiting from the process of technical system integration in product design has achieved two goals, the first is energy saving and the second is to benefit from the formal effect of alternative energy.

5- The orientation in the design of industrial products towards the principle of reducing energy consumption, and adopting new and clean energies, such as solar energy and electric energy (in transportation modes).

6- The systems employed in the design of the sustainable product are considered to have a holistic and complementary effect with it, as it provides new elements that carry the characteristics of protection and good appearance and in a way that achieves response to the design requirements of the product at a time that secures energy, that is, it has the possibility of harmoniously combining the design function The technological function. Due to the depletion of many raw materials from nature, the modern trend has worked to find an environmental balance by producing manufactured materials that mimic naturalness in their geometric and

formal characteristics. It is lightweight, easy to form, energy saving, and durability for a longer period as well as recycling.

7- The orientation in designing industrial products by adopting the principle of reducing volumes and reducing their weights, in line with the alternative energies employed in operation, to achieve the required proportionality.

8- Attempting to extend the life of the industrial product by adopting the principle of simplicity in design and ease of repair and development, as well as the orientation when designing to manufacture ready-made units of various sizes through which the old piece can be replaced with a new one. And by adopting the principle of disassembly and installation.

9- Adopting the principle of modularity as much as possible in the design of product parts, in order to achieve interchangeability, maintainability and increase life span, as well as ease of manufacturing and low cost.

10- The orientation in using the available suitable local materials, provided that they are environmentally appropriate for use and in a manner that achieves the functional, aesthetic and economic aspects of the product.

11- Designing products from materials that can be recycled in an orderly and thoughtful manner and that they are healthy materials with the least negative impact on the environment, as well as materials with low chemical emissions to reduce environmental damage.

12- The orientation in designing industrial products towards the principle of reducing energy consumption, and expanding reliance on clean renewable energy, such as solar energy and electric energy. (In modes of transport.

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