



The Role of Research Towards Achieving Global Sustainable Development Impacted of the Covid-19

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Abstract

Towards Impacted achieving global sustainable development in institutionally, government organizations are typically organized into sectorial ministries and departments. This lecture's works fairly well until the system encounters something very comprehensive and highly integrated in nature, such as global sustainable development. In practice, global sustainable development is requiring the integration of economic, environmental, and social objectives across sectors, territories, and generations. Therefore, global sustainable development requires the elimination of fragmentation; that are, environmental, social, and economic concerns must be integrated throughout in the decision-making processes, in order to move role of research towards development that is truly sustainable. The role and research towards of the key principle of global sustainable development underlying all others is the integration of environmental, social, and economic concerns into all aspects of decision making. All principles in the sustainable development framework have integrated decision making at their core of the roles. It is this deeply fixed concept of integration that distinguishes sustainability from other forms of policy.

Keywords: Role of research; global sustainable; development; impacted of covid-19

Introduction

Perspectives of scientists on technology and the global sustainable development "GSDs", in view of its ambition and the complexity of the challenges it addresses, implementing agenda 2040 is a daunting task. Scientists and many people see technology as a major factor that can help to meet the sustainable development goals of impact of human inventions. Technology can help build on synergies among the goals, realize possible multiple benefits as well as avoid barriers and conflicts on the challenging road toward the global sustainable development "GSDs". This background, the present lecture presents a range of perspectives of scientists on the most promising actions or policy elements for optimal leveraging of technology for the global sustainable development "GSDs" of impact of human inventions and "leaving no-one behind", as well as on which technologies will be most crucial until 2040 [1-5]. It aims to inform policy makers in this early phase of implementation, Theme: The Role of research towards achieving global sustainable development and goals in the Coronavirus Era and Sub-Themes: The effect of COVID-19 on research and its Implications for the global economy, Influencing research for Solution-Driven technology in the Era of COVID-19, The impact of COVID-19 on global education research, The an opportunity for academics to

share their achievements in research, innovation, engagement and teaching activities before an audience of members of the University community, government cycle and the general public.

Definition of Sustainable

The definition of weak sustainable development explains that only the aggregate level of capital matters as: of natural resources, or man-made, or manufactured, capital is an adequate alternative to natural capital. And the strong sustainability, on the other hand, recognizes the unique features of natural resources that cannot be replaced by manufactured capital as of impact of human inventions [6-9]. Most ecologists and environmentalists are proponents of the strong sustainability definition. In addition to substitutability, the definition of sustainability is also founded on several other important principles. Contained within the common definition of sustainable development, intergenerational equity recognizes the long-term scale of sustainability in order to address the needs of future Generations of all of God's creatures.

Coronavirus Techno-Innovation Map

Global map of solutions created in response to Covid-19 with rankings of top innovative locations. As illustrated in Figures 1 & 2.

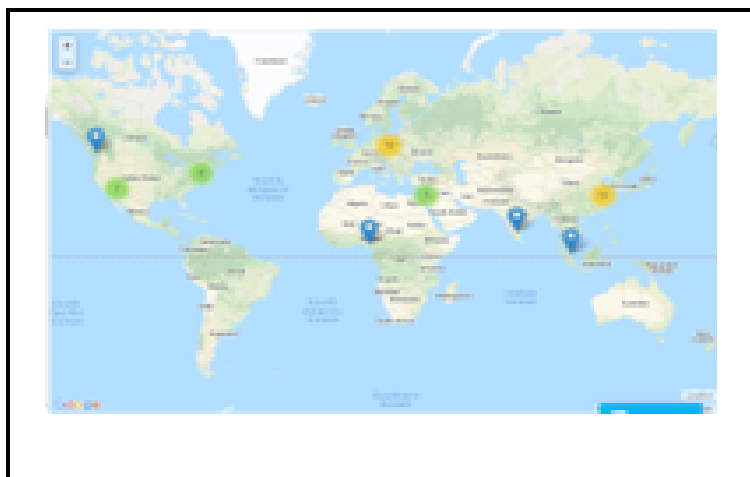


Figure 1: Illustrated (66 of initiatives of coronavirus techno-innovation map global map of solutions created in response to Covid-19 with rankings of top innovative locations [10]



Figure 2:

a) **Blue Ocean Robotics, Disinfection Robots, and Location:** Odense, Denmark: Blue Ocean Robotics has deployed its disinfection robots to cities around the world hit hard due to the coronavirus. This disinfectant robot uses UV rays to promote contactless cleaning to help prevent the spread of the virus.

b) Neurobotics: Workplace contact tracing robots, Location: Moscow, Russia, the robot identifies patients and prevents the spread of coronavirus among employees. The robot connects to a database of employees', recognizes and addresses each person individually, as well as recommends certain actions depending on the well-being and condition of the employee

c) PAL Robotics: Autonomous robot for disinfection, Location: Barcelona, Spain, PAL ROBOTIC designs and manufactures robotic platforms to improve the quality of life in our society, which are safely integrated into our environment. The robot integrates

UV-C ultraviolet light devices for disinfection through autonomous navigation through spaces, disinfecting surfaces in its path. This system reduces the need to expose people [10].

We have several, you just have to find them in the category "Prevention" and subcategory "Protective and Sanitation" on the site :) As illustrated in Figure 3. A remote-controlled robot that runs tests on suspected coronavirus disease (Covid-19) patients to limit the human exposure to the virus is seen next to a healthcare worker in a corridor of the hospital, Amid a second wave of infections in Tanta, Egypt, November 18, 2020 [11]. (Reuters). Challenger "disadvantages /limitations".

a. **Self-Reboot-Mobility (SRM) textiles** take a long time to clean themselves. More active catalyst is therefore needed to speed up the cleaning process [12-14].

- b. The high oxidation power of the catalyst will not only degrade the stains but will also adversely affect the fibers themselves [15].
- c. The mechanical strength (i.e., tearing strength) & durability of fabric get reduced considerably. The catalyst is also skin irritant [16].
- d. Carbon nanotubes based Self-Reboot-Mobility (SRM) coatings have limited applicability as they turn dark in colour after the coating.
- e. Sunlight is the best source of light for activating the Self-Reboot-Mobility (SRM) process.



Figure 3: Illustrated Cairo 3, a remote-controlled robot.

Objective of the study

- a) That since sustainable development evokes a balance between fourth components: "Social, Economic, Environmental, and Impact of human inventions".
- b) To design sustainable development of Self-Reboot-Mobility (SRM) finishes product.
- c) To understand the sustainable development application of nanotechnology into Self-Reboot-Mobility (SRM) finishes.

The significance of the study

- a. Sustainable development Self-Reboot-Mobility (SRM) finishes in the textile product helps in easy maintenance and environmental protection.
- b. Sustainable development of Using of Self-Reboot-Mobility (SRM) product will save time, material, energy reduction and consequently cost-efficiency during production [17-20].
- c. People need not to suffer from heavy laundry bills and cleaning efforts.
- d. Sustainable development, it will improve ageing behavior by extended surface purity effect.

Research Methodology

- a) **Secondary research:** articles, journals and books.

- b) **Primary:** Informal discussion with the experts and experimental research.

Sustainable development of Self-Reboot-Mobility of Self-Cleaning antimicrobial industry on textiles and apparel for impact of Covid-19 [21,22].

Systems of Lockdown and quarantine

Sustainable Development of Impact of Covid-19 there are a new health code was implemented in over 100 cities via an online accreditation prevention system allowing people to share their travel history and health status. And now every citizen is allocated with a QR (also known as Quick Response) code, which allows to track his/her movements. When citizens use public domestic services such as public transportation or visit a supermarket, they are expected to scan their QR code. Those allocated a red color code were either affected by the virus or those had travelled recently to Hubei province. Those given a yellow code were required to self-isolate for two weeks (the incubation period for detecting the virus; [23]), and those given a green code retained access to the city [17].

Manufacturing method

Sustainable development of the self-cleaning and Self-Reboot-Mobility (SRM) textiles without the intervention of the human element to preserve human safety from Coronavirus be manufactured by two ways

- a) Sustainable development of Traditional method: Application of fluorocarbons.
- b) Sustainable development of New method: Application of nanotechnology.

Basis work

sustainable development, the precautionary principle establishes that “where there are threats of serious or irreversible damage as Coronavirus, lack of full scientific certainty shall not be used as a reason for postponing cost-effective measure to prevent environmental degradation”, as reason of Coronavirus therefore, the government policy should ensure that environmental costs are internalized wherever possible; this also serves to minimize externalities. Therefore, the proponent of an activity bears the burden of proving that this action will not cause significant harm. Explicitly stated in the notion of common but differentiated responsibilities recognizes that each nation must play their part on the issue of sustainable development the Confrontation of Coronavirus.

Methodology of impact of human inventions

Sustainable development, this work should take into account the role that scientific research could play at the level of each of these components and also at the level of the existing relationships between these components, The present lecture is a synthesis database of inputs from last 20 years scientists and experts in throw 2020 to two specific questions: There are many technology challenges for achieving the global sustainable development “GSDs” and lots of expectations for technology solutions. Against this background:

- a) What are the most promising actions or policy elements for optimal leveraging of technology for the global sustainable development “GSDs” and “leaving no-one behind”?
- b) Which technologies and what level of their performance and deployment will be most crucial until 2040? It is important to note that present lecture does not present a consensus view of contributing scientists but presents the range of views submitted.

Sustainable development

Throw the two questions were addressed at several eminent scientists and experts from a wide range of disciplines. previous contributors to the Global Sustainable Development Report, especially those who had submitted science-policy briefs, as well as participants in the expert group meeting on emerging issues which was held in 2020. Future the Sustainable Development Solutions database Network. Notably, one of the responses was from an interdisciplinary on Innovation and Access to Technology for Sustainable Development which conducted original case studies in: Social, Economic, Environmental, and Impact of human inventions. such as the water, energy, health, agriculture and manufacturing sectors and synthesized literatures across a range of fields including

innovation systems, economics, science and technology studies, law, engineering, international relations and complex systems [1,2].

A solution of a problem throws technology

Sustainable Development of Technology has greatly shaped society, economy and environment. Indeed, technology is a double-edged tool [4,5] While innovation technology progress has been a solution to many ills and problems, it has also added ever new challenges [6,7]. Socio-economic development is inextricably linked to innovation technology change, as innovation technology, society and institutions co-evolve. Innovation technology change can be a source of conflict, as well as a tool for social inclusion and greater cooperation. As the ICTs have allowed huge advances in this respect, e.g., in health, education, transport and communications, but they have led to security and privacy challenges. Innovation technology to varying degrees, all technologies consume resources, use land and pollute air, water and the atmosphere. While increasing eco-efficiency of Innovation technology use has reduced the amounts of resources consumed and pollution produced per unit of output over the long run, absolute amounts of consumption and pollution have continued to increase unsustainably. Against this background, governments have long called for concerted actions to accelerate change role of research towards more sustainable technology. sustainable development throw Many Innovation technology optimists believe such acceleration is essential and call it the technology innovation imperative.8 it should also be noted that technology innovation change itself is often not neutral. Instead, it is often biased toward capital Technology dimension of the global sustainable development “GSDs” whereby scientists could simply list what they considered the most important emerging technologies; and skilled labour and hence has significant distributional effects leading to increased inequality [9]. Technologies invented or adapted in developing countries are likely to be more suitable for use in other developing countries [10,11].

Analysis Methods sustainable development

World Agenda recognizes the importance of technology innovation for the achievement of the global sustainable development “GSDs”. Technology innovation are not only captured in the global sustainable development “GSDs” as a key “means of implementation”. Among the many targets, targets explicitly refer to “technology” and another targets relate to issues that are most often largely discussed in technology innovation terms. There are also certain technology innovation dimensions to the other remaining targets, in which case, however, technology is only one of many means for their implementation. Categorizes targets that are most closely related to technology inventions along three targets:

- a. Significant overall technology innovation performance improvement.
- b. Universal access to sustainable technology innovation; and
- c. Global effective innovation system for sustainable development [24-30]. It is based on interdisciplinary expert assessment.

Individual views as to which targets are technology-related necessarily differ.

For example, energy engineers tended to see large technological innovation components in the target to provide universal access to affordable, reliable and modern energy services, whereas political scientists or anthropologists tended to emphasize the non-technological elements [12]. Thus translates the complex list of the global sustainable development targets into a form that can readily be related to existing scientific literature and assessments. Technology-related targets have also been proposed in the scientific literature. They are usually much more quantitative than the agreed the global sustainable development targets. While the creators of the global sustainable development "GSDs" overwhelmingly focused on the objective to "leave no-one behind" in all its dimensions, when it came to technology innovation, they included a significant number of overall technology innovation performance targets. This is very much in line with scientific findings that point to a need for making simultaneous progress in equity, overall technology innovation performance and institutions, as well as in both radical and incremental technology change. Proposals by scientists for optimal leveraging of technology for the global sustainable development "GSDs" and benefits of attending the inaugural are considerable for established academics and new scientists alike. Apart from the academic benefits, the rich social and cultural program will be associated with the events. The multinational composition of the attendees will stimulate the initiation of fruitful conversations [31-35]. All important decisions regarding our research projects, funds, international membership, training and professional development and other issues would be taken at the inauguration.

Result and Discussion

A Humanitarian Perspective and Smart Technologies of Covid-19. While world was able to policies in containing the virus transmission, such an approach of Quarantine hospitals may be hard to impose anywhere world. While world largely focused on identifying those who are infected, Western and East democracies have focused on human-driven approach, ensuring lockdowns, and quarantine. Self-Reboot-Mobility of Self-Cleaning antimicrobial industry on textiles and apparel for impact of Covid-19, how this strategy varies from that adopted in world is now considered.

Sustainable Development Keywords

- a. Covid -19
- b. Role of research
- c. Global sustainable
- d. Sustainable development
- e. Global economy
- f. Influence research
- g. Solution driven technology
- h. Impact of covid-19

i. Global Education research

The Corona pandemic had afflicted humanity.... so, it was a plight on the people.... that mankind accepted and took preliminary data from scientific research and the possibilities available to coexist with it ... Corona came on the globe as a gift and an opportunity to rearrange the situation ... and humanity's cohesion, familiarity, and fraternity among all countries of the world to confront this danger that threatens humanity (old - young) of men and women, as well as boys and girl's discrimination." The only recourse is to take the reasons within a scientific framework, science is based on:

- a) Finding solutions to problems that may be stressing the human being or to provide means of comfort and environmental adaptation to enrich human life and maintain a safe human life.
- b) Innovation and innovation, with the aim of advancing data and overcoming difficulties. Providing means of comfort, security and safety for humanity.
- c) All of this is through a scientific framework that seeks to define the problem with its dimensions, and its solution or overcoming it needs to define clear and specific scientific goals through scientific research to find a scientific formulation of the problem with specific goals through scientific tools and methods followed by designing and following steps to solve the problem ... and scientific experimentation on the ground, through tools and materials, to reach interpretations and analyze results ... to solve the problem, in all areas: - Humanities (psychological-social). - Engineering and industrial- health and medical
- d) Agricultural and fisheries.

Sustainable development

- a) As a field and continuity of human scientific research of the injured.
- b) Marie Curie, Physicist & Chemist, France
- c) Born Nov 7, 1867
- d) Scientist, Nobel Prize Winner, Woman Scientist

Sustainable development throw nobel prize

Nobel Prize, any of the prizes (five in number until 1969, when a sixth was added) that are awarded annually from a fund bequeathed for that purpose by the Swedish inventor and industrialist Alfred Nobel. The Nobel Prizes are widely regarded as the most prestigious awards given for intellectual achievement in the world. Nobel Prize: The obverse side of the Nobel Prize medals for Physics, Chemistry, Physiology or Medicine, Literature, and in Economic Sciences in Memory. The Nobel Prize in Physics has been awarded 114 times to 216 Nobel Laureates between 1901 and 2020. John Bardeen is the only Nobel Laureate who has been awarded the Nobel Prize in Physics twice, in 1956 and 1972. This means that a total of 215 individuals have received the Nobel Prize in Physics. The Nobel Prize in Chemistry has been awarded 112 times to 186 Nobel Laureates

between 1901 and 2020 [36-39]. Frederick Sanger is the only Nobel Laureate who has been awarded the Nobel Prize in Chemistry twice, in 1958 and 1980. This means that a total of 185 individuals have received the Nobel Prize in Chemistry. The Nobel Peace Prize has been awarded 101 times to 135 Nobel Laureates between 1901 and 2020, 107 individuals and 28 organizations. Since the International Committee of the Red Cross has been awarded the Nobel Peace Prize three times (in 1917, 1944 and 1963), and the Office of the United Nations High Commissioner for Refugees has been awarded the Nobel Peace Prize two times (in 1954 and 1981), there are 25 individual organizations which have been awarded the Nobel Peace Prize. Innovations in Electricity Market Design for Solar and Wind Integration Innovations of Space and Aviation.

Innovations of telecommunications

<https://3vmbig1fuckj48k8rq1n7zug-wpengine.netdna-ssl.com/wp-content/uploads/2018/09/Telecommunication-Innovation-Map-StartUs-Insights-1280-720-noreize.png>

Internet of Things (IoT) & Machine2Machine (M2M)

IoT & M2M communication demands constant mobile communication to function. As such, they represent a new challenge and opportunity for the Telecom industry. Since IoT's data volume will overtake current user-generated mobile data volume, the global adoption of the 5G network is crucial for IoT solutions. However, before the global large-scale deployment of 5G becomes a reality, telecom companies have to adopt Low Power Wide Area Network (LPWAN) as a complementary technology [40].

Cybersecurity

As the Internet of Things is becoming a more essential topic and telecommunication companies go digital, measures to tackle the increased risk of cybersecurity to data, applications, and networks have to be taken. Adopting blockchain, Artificial Intelligence/Big Data Analytics, and Distributed Cloud Architecture help telecom companies to enhance their cybersecurity capabilities. However, the commercialization of Quantum Computing, Quantum Cryptography, and Quantum Random Number generation will be the holy grail of keeping data and communication safe and secure.

Cloud computing

As 5G Network requires more flexible networks, telecoms need to engage in cloudification to optimize for lower costs, more elasticity, and increased speed. Cloud Computing gives the telecom industry the opportunity to move up the information and communications technology (ICT) value chain through the allocation of cloud server resources on-demand. It enables companies to transform their existing business models Role of Research towards new ones, such as Software-as-a-service (SaaS) and Platform-as-a-Service (PaaS).

Artificial Intelligence (AI)

Telecommunications providers already show a massive interest in the potential of Artificial Intelligence to improve both their customer service and service delivery via better network

performance and reliability. In this regard, self-optimizing networks (SON), deep neural networks, software-defined networks (SDN), and network function virtualization (NFV) all bring great value to telecom companies. In addition, Virtual AI Assistants have shown great promise to improve both B2B and B2C service quality while reducing the cost of operations.

Big Data & Analytics

Big Data provides telecom companies with more insights into operations and customers and helps to promote growth while also increasing efficiency & profitability. For example, through analyzing temporal and geographical distributions of past mobile usage by users and IoT devices, companies are able to predict the peak usage period and locations in order to optimize their network services/usage, enhance customer experience, and improve security.

Next Generation Mobile Networks / 5G

The "next big thing" after 4G/LTE, the 5G Network, supports device-to-device, ultra-reliable, and massive machine communications which lay the networking foundation for the future development of IoT and M2M. For example, both Self-Driving-Vehicles and Smart City technologies can greatly benefit from the 5G Network.

Network Functions Virtualization (NFV)

NFV represents a "once-in-a-generation" shift: by adopting virtualization technologies, providers can virtualize different hardware functionalities on a standardized system to fulfill various demands instead of purchasing specific single-use equipment, thus saving costs. Through virtualization technologies, companies are able to shift their business models from network/hardware-centric to software/service-driven.

Disruptive Startups in the Telecom Industry Include

Thinextra builds a full ecosystem of IoT solutions & services to enable non-connected people to connect from anywhere at any time. The startup operates IoT devices using Low Power Wide Area Network (LPWAN) technology.

Swiss startup ID Quantique proclaims itself the "world leader in quantum cryptography and quantum random number generation". Designed to protect data long-term, the company provides network encryption, quantum key generation, and key distribution solutions. Startup Twilio allows to programmatically make and receive phone calls as well as to send and receive text messages using its web service APIs. The cloud communications platform as a service (PaaS) company's services are accessed over HTTP and include communication building blocks such as messaging, voice & video as well as authentication. Finish Valossa is one example for a startup leveraging the power of computer vision and AI. Their platform Val.ai is capable of analyzing movies, streaming videos in real-time and identifying thousands of concepts, like places, objects, and unique topics, from any video stream to meet and optimize services for user demand. Having secured 12€ million in their first

round of funding, Real Impact Analytics “capture(s) the value of telecom data”. The Belgium-based startup aids telecoms to manage their marketing, sales and distribution networks more efficiently by changing the traditional big data approach by delivering simple and easy-to-use applications. Italian startup ATHONET provides a 100% software-based mobile core for voice and data networks that runs in the virtualized cloud data center environments using standard off-the-shelf hardware. Their mobile packet core solution includes a Home Subscriber Server (HSS), Home Location Register (HLR), Voice-over-LTE (IMS for VoLTE), Voice-over-WiFi (WiFi calling) and LTE Broadcast (eMBMS) – built with the aim to facilitate 5G. Startup Affirmed builds a fully virtualized IoT platform that supports narrowband IoT (NB-IoT) and is interoperable with third-party platforms [41-43]. Their platform uses a cloud-native architecture that supports advanced capabilities like network slicing, helping with low latency and high-bandwidth applications. Companies in the telecommunication industry are currently facing multiple challenges: a stagnant number of new users due to market saturation, declining profit due to competitions from both within and outside of the industry, and increasingly sophisticated cybercrime. At the same time, the next wave of innovations, such as the 5G Network, IoT, and AI offers great business opportunities waiting to be seized. Companies that act now will be able to utilize the power of these technologies to overcome current challenges and emerge as tomorrow’s industry leaders. Here at Start Us Insights, we believe that collaborating with the most promising startups in the industry is the key to unlock the power of innovation and apply disruptive technologies. Therefore, we are dedicated to providing actionable intelligence on startup-driven innovation and technology in the telecommunications industry. <https://www.startus-insights.com/innovators-guide/telecommunication-innovation-map-discloses-emerging-technologies/>

Sustainable Development in Dealing with Corona requires producing

A. The problem

Defining the problem, its specifications and characteristics for the (Corona pandemic).

- a) Drugs, medicines and vaccines.
- b) Discovering new materials.
- c) Creating and producing new species.

B. Searching for natural materials from natural sources (as prevention and treatment) “that are safe and have no harm to the operators, the user, and the recipient of treatment.”

C. Identifying and producing new methods for preparing and designing components in a manner consistent with the microbe’s modifications.) “It is safe and has no harm to the operators, the user, and the recipient of the treatment.

D. Defining and producing “innovating” modern tools) that are safe and have no harm to the operators, the user, and the recipient of treatment.

E. Defining the sample of the product with specifications “that are safe and have no harm to the operators, the user, and the recipient of the treatment.”

- F. Determining the volunteer sample
- G. Determining and analyzing results for patients
- H. Determine the required quantities
- I. Determining the necessary numbers of human consumers
- J. Determining the quantitative production
- K. Determination of prices
- L. Determine the production capacity
- M. Determining delivery, shipping and transport methods.

R- Determine the feedback on the previous stages of reformulation and development.

Sustainable Development Economic Significance

The economic significances of Self-Reboot-Mobility (SRM) textiles are as follows:

- a) Maintaining human safety and health
- b) Helping quarantine hospitals get rid of Corona virus’ Maintaining the safety and health of humans, medical and nursing teams, this leads to saving the expenses of treatment and medicine for the injured at the strategic level.
- c) Ease of maintenance and environmental protection specialty of quarantine hospitals due to reduced cleaning efforts
- d) Resource conservation (time, energy and money)
- e) Durable & long lasting
- f) Dispensing with the human element (in the interest of human safety) in transporting and washing procedures and People need not to suffer from heavy laundry bills
- g) Improved ageing behavior of clothes by extended surface purity effect.

Sustainable development of opportunities for design and production

As research continues and knowledge matures in the area, more exciting developments are expected that will allow Self-Reboot-Mobility (SRM) to expand its frontiers into many as yet unknown and unexplored domains. Designers have a great opportunity to come up with an innovative design concept in Medical textiles e.g., Hospital garments so this areas that can be applied in various areas like:

- a. Medical textiles e.g., Hospital garments (quarantine hospitals get rid of Corona virus’ Maintaining the safety and health of humans, medical and nursing teams).
- b. Sports tech as (Athletic wear).

- c. Defense textiles as (Military uniforms).
- d. Smart textiles
- e. Upholstery
- f. Undergarments (for human body)

Conclusions

The role of research towards achieving global sustainable development impacted of the covid-19 Helping quarantine hospitals get rid of Corona virus' maintaining the safety and health of humans, medical and nursing teams, this leads to saving the expenses of treatment and medicine for the injured at the strategic level. Opportunities for design and production the opening of new application fields for textiles will lead to a new growth stage. Self-Reboot-Mobility (SRM) fabrics, hospitals and quarantine hospitals for corona patients. The application of Self-Reboot-Mobility (SRM) properties on textile surfaces by using the nanotechnology includes a vast potential for the development new products. Fourth kinds of self-cleanings have come out namely physical, chemical and biological self-cleaning:

- a. The physical self-cleaning means physically removal of dust and dirt particles present on any surface. These surfaces are available in nature like Egyptian lotus leaves, rice leaves and wild ducks feathers.
- b. The chemical self-cleaning refers to chemically degradation of stains present on the surface,
- c. And the biological self-cleaning means killing of bacteria if they attach on the surface and prevention of their growth.
- d. Self-Reboot-Mobility.

Self-Reboot-Mobility of self-cleaning antimicrobial Industry on textiles and apparel for Impact of Covid-19 (Self-Reboot-Mobility (SRM) is combinations of IT (information technology) and OT (operational technology) for more scope for development in manufacturing industry).to help and are not only repellent to water but are also resisting stains, dirt, odor and are antimicrobial as well. Water through these surfaces easily rolls off and completely cleans the surface in the process. Self-Reboot-Mobility (SRM) effect on textile materials lead to an efficient use of materials and are therefore in agreement with the principles of sustainable development [44]. One of the key processes to disable viruses is through the control of their surface structure self-cleaning antimicrobial Industry on textiles, especially their binding sites, so they can no longer recognize the receptor site on the host cells. As many types of antimicrobial and antiviral nanocoating's applications include but are not limited to medical facilities and laboratories, medical equipment; fabrics and clothing like face masks; Hospital furniture; nanocoating's attack most effectively on the virus's surface, they represent an excellent viable technology to destroy the virus's surface structure of textiles and apparel for impact of Covid-19.

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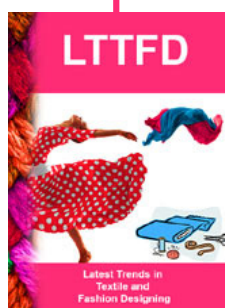
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