

# THEME OUTLINE

**9 & 10 December  
2022**

# THEME

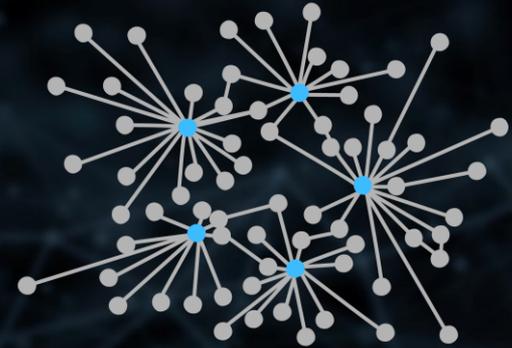
**“ RE-ENGINEERING YOUR IDEAS FOR  
SUSTAINABLE NEPAL ”**

## RE-ENGINEERING YOUR IDEAS FOR SUSTAINABLE NEPAL

Nepal is rapidly approaching towards digitalization and adopting modern engineering. But are we lagging behind in terms of sustainability in the rush toward development? Is sustainability and engineering not going hand to hand? So, this Orbit Expo, The exhibition explains how far we can go with sustainability and how our engineering needs to be refined in order to implement practices that will ensure sustainability for future generations. Engineering and innovations when combined with hardware and software we get most impressive results .This December get ready to witness a different engineered Nepal.

# 1. DIGITALIZATION

The term refers to "the practice of digital technologies to change a business model and moving to digital business to provide new revenue and value-producing opportunities." By patronizing digital technologies for the transformation of business processes which effectuate opportunities for efficiencies and increased revenue. From the first industrial revolution to the creation of the automobile, businesses are always challenged to adapt. In this age, the digital revolution is transforming the way businesses manufacture, communicate, and provide services and products to their customers. In 2014, 1.2 billion smartphones were sold worldwide, and today 94 percent of the world's information is digital. Communication, e-books, online shopping, music, and whatnot. Digitalization is all around us, whether it is social media advertising or convenient apps



## 2. WASTE MANAGEMENT

An essential component of environmental preservation is waste management. Its goal is to provide solid waste storage, collection, transportation, and treatment or disposal services that are hygienic, effective, and affordable while preventing pollution of the air, land, or water supply. Despite being among the most crucial tasks that must be completed for human health. This is one of the areas where the globe still has difficulty doing well. Unmanaged garbage is having negative effects on the entire world.

When it comes to mismanaged trash, Nepal is also one of the most vulnerable nations. Being the capital of Nepal, Kathmandu has waste all over the city, which causes terrible odors and health problems for the locals. It is urgent to find a solution to this major issue, which has an impact on both human health and the environment, in the modern world.



### 3. TRAFFIC MANAGEMENT

The use of public ways like roads for the movement such as travel and transportation of vehicles, ridden or herded animals, trains, and other conveyances refer to traffic. Accommodating traffic in a safe and efficient way is the basic principle challenge in traffic control. Kathmandu, being the capital of Nepal, tends to attract a large number of people from different parts of the country. The city witnesses a wide range of social, political, and economic activities on an everyday basis. The city's population is increasing rapidly, with a consequent increase in the number of vehicles, but with no commensurate increase in road size. The Metropolitan Traffic Police, despite manpower constraints and surmounting constraints, has been managing the congested traffic of the city with the utmost professionalism and competence. Fatal accidents along the roads of the Kathmandu Valley are one major concern.



## 4. FUTURE DESIGN

Future design will emphasize a variety of factors, such as placemaking, walkability, sustainability, mixed-use developments, authenticity, mobility, and many others.

The textures, materials, and patterns that have changed through time and give a place its individuality is what placemaking is all about. It holds making of successful walkable cities. They create areas where people can live, work, shop, and go to school without relying on automobiles. Mixed-use neighbourhoods will provide more diverse and dense housing options. They lead to more compact development and usage synergy, which shorten travel times, encourage bicycling and walking, and promote exercise round-the-clock. Urban-scale transportation options will keep up with population expansion, lessen reliance on fossil fuels like gasoline, and make better use of utilities and infrastructure.



## 5. BIOMEDICAL

The practice of applying engineering and technological principles to the study of biological or living systems, with a focus on human health and disease, is known as biomedical technology. In today's world, where new pandemics are emerging and numerous new diseases are discovering themselves and posing a threat to human life, biomedical technology becomes both a necessity and a top priority.

Biomedical research is crucial because it serves as the foundation for the development of novel drugs and therapies that aid in the management of a wide range of illnesses and ailments. The prevention and treatment of diseases would be nearly impossible without this study.

The flu vaccine and other advancements in vaccine technology, treatments for infants with congenital heart problems, and novel cancer therapies are just a few examples of how biomedical discoveries have already enhanced life.



## 6. AGRICULTURE

The art and science of cultivating the soil, growing crops, and raising livestock which includes the preparation of plant and animal products for people to use and their distribution to markets is known as agriculture.

Over a long time, the boost in the sector of agriculture contributed to the rise of civilizations. In Nepal, this sector engages around 66% of the total population in Nepal. But agriculture-driven growth, poverty reduction, and food security are at risk: Impact from COVID-19: Related disruptions to extreme weather, pests, and conflicts are impacting food systems, resulting in higher food prices and growing hunger.

For thousands of years, agricultural development was very slow, but digitalization can help us enable farmers to use advanced technologies to access customized and actionable agriculture information, all in real-time on their own mobile phones.



## 7. MANUFACTURE AND INDUSTRY

The manufacturing sector is regarded as the backbone of both social and economic development. By providing jobs in the secondary and tertiary sectors, they contribute to the modernization of agriculture and the elimination of people's heavy reliance on agricultural revenue. The main tenet of public sector enterprises and joint sector operations is that industries serve to lower unemployment and poverty. By creating businesses in tribal and underdeveloped areas, they lower regional inequalities. Exporting manufactured goods boosts trade and brings in much-needed foreign currency. Developed nations are those that can transform their raw materials into a variety of higher-value finished goods. Industry and agriculture do not compete with one another. This is a sector with tons of potential for improvement in today's modern world with endless possibilities.



## 8. RENEWABLE ENERGY

The energy derived from natural resources that are refilled at a higher rate than they are consumed is known as renewable energy.

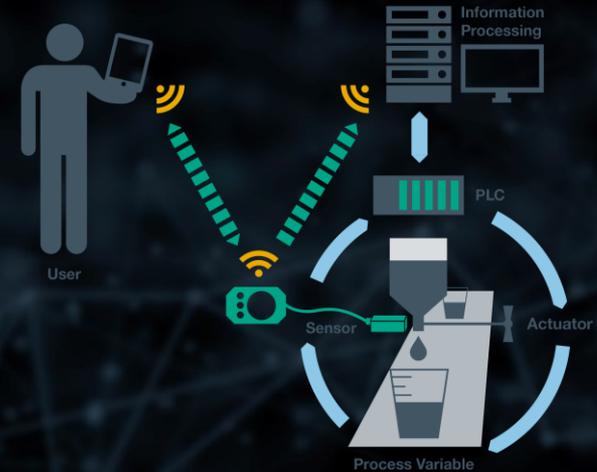
Nepal is one of the least developed countries, with more than 75% of its population residing in rural communities. The energy sector is dominated by traditional energy sources such as fuel, wood, crop residues, etc.

The ongoing increase in petroleum imports has adversely impacted the existing fragile economy of the country. Despite the huge potential for harnessing various renewable energy resources such as hydropower, solar power, wind energy, and biofuels/bioenergy.



## 9. AUTOMATION

Automation is the development and use of technology to manufacture and provide goods and services with little or no human involvement. Many tasks that were formerly carried out by people are now more productive, dependable, and/or quick because to the use of automation technologies, techniques, and processes. Manufacturing, transportation, utilities, defence, facilities, operations, and most recently, information technology, are just a few of the sectors that use automation. As a result, automation is a crucial area of the current technological world. Automation can be one of the best answers in a world where many problems are emerging, making it a technology that makes human lives easier and a path to a world with many untapped technological possibilities to be tapped.



## 10. CLIMATE CHANGE

The long-term shifts in temperatures and weather patterns are known as climate change. These changes may be natural, such as through variations in the solar cycle.

But after the 1800s, human activities have been the main cause of climate change, mainly due to burning fossil fuels like coal, oil, and gas.

Due to climate change In Nepal, changes in monsoon patterns will greatly exacerbate the situation of the unacceptable presence of poverty and inequalities of opportunities in the country. Nepal faces a range of extreme weather-related events like floods, droughts, landslides, avalanches, high and low temperatures, and glacier lake outburst floods



# 11. DISASTER MANAGEMENT

One of the most crucial areas that requires attention is disaster management since it has a direct impact on human lives and causes significant harm. It tries to make sure that disaster responses are efficient and well-coordinated. Disaster management is essential to providing prompt and effective aid to those affected by disasters through efforts to save lives and lessen the effects of crises on affected communities. It is crucial, especially in the case of Nepal because of its high disaster susceptibility. Nepal is extremely susceptible to both natural and man-made calamities. Her vulnerability to disasters is a result of her complex geology, fluctuating climate, active tectonic processes, rapid urbanization, haphazard settlements, lack of public awareness, rising population, precarious economic situation, and low literacy rate.



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