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Research on Declaration of The 4th Industrial Spirit Revolution

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Abstract

Smart city has effect toward its sustainability. Citizens should be viewed as co-creators of cities, not consumers. From this point of view, citizen responsibility and ethics should be emphasized. Now, Smart cities are becoming more important than ever. From now on, urban development is divided into two major categories. One side is the development based on smart city, and the other is urban development that revives the old city. As the city grows bigger and bigger, many problems arise and there are many problems. This tendency must become stronger in the future. But, Stones shall be dressed to exact size and shapes before being laid. Until now, No attempt has been made to declare about Citizen Spirit in Fourth Industrial Revolution. In the era of the Fourth Industrial Revolution, in order to become a leading country of Smart City, we must first complete the spiritual revolution. From this aspect, this study proposes the "Declaration of the Fourth Industrial Spirit Revolution".

Keywords: Fourth Industrial, Smart City, Declaration, Spirit Revolution

1. Changes in the Smart City Concept

1.1. Space Analysis Concept

GIS provides, for every kind of location-based organization, a platform to update geographical data without wasting time to visit the field and update a database manually. There are maps and properties in the space analysis. The map is the default urban space analysis. A map is a scale drawing that represents a part of the earth. The scale of the map is the ratio of a distance on the map to the actual distance on the Earth. For example, sixty kilometers per hour, sixty dollars per room. A ratio is a comparison of numbers with the same units. A rate is a comparison of 2 numbers with different units. Generally, the space plan is divided into tile blocks and the building is arranged by using the 'Arithmetic sequence' or 'Geometric sequence'.

And, the beauty of the city and the scenery (such as regular building layout or space layout) are proportions and common difference (tolerances)[1].

In an 'arithmetic by the sequence', the number obtained by subtracting any term from the next term is a constant, This constant is the common difference. And, In a 'geometric sequence', the number obtained by dividing any term by the preceding term is a constant, This constant is the common ratio.

'Arithmetic sequence' is using (a), (1)
'Geometric sequence' is using (b), (2)

3====7====11====15
+4 +4 +4
(a)

4====8========16==========32
*2 *2 *2
(b)

$$Tn = a + (n - 1)d \quad (1)$$

$$Tn = ar\ n - 1 \quad (2)$$

Tn : nth term
a : the first term
n: term number
d : common difference
r: common ratio

Each term is 4 more than the preceding term, and the first term is 3, the common difference is 4. The 30th

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term is Th = 3 + (30 – 1) 4 = 119

Each term is 2 times the preceding term, and the first term is 4, the common ratio is 2.

The 11th term is Tn = ar n – 1 Th = 4*210 = 4 * 1024 = 4096

Generally, in the spatial planning, block-shaped land and buildings, such as the placement of an arithmetic progression or Geometric sequence.

1.2. Capital Expenditures and Operating Expenses

The best things in life may be free: but building a Smart City without figuring how it pays for itself, would not be Smart.

Capital expenditures are the amounts that a city use to purchase major physical goods or services that will be used for more than one year. For example, a city might have capital expenditures to increase or improve its fixed assets.

Capital expenditures might include:

- Plant and equipment purchases
- Building expansion and improvements
- Hardware purchases, such as computers
- Vehicles to transport goods

Operating expenses are the costs for a company to run its business operations on a daily basis. Examples include rent, utilities, salaries and pension plan contributions, any expense considered sales, general, & administrative expenses on the income statement, research & development, property taxes, etc.

Operating expenses represent the other day-to-day expenses necessary to keep the smart city running.

The city is equipped with an intelligent integrated operating system of demand management supply management. For example, traffic, environment, energy, gas, electricity, and so on[3].

2. Changes in the Korea Smart Cities

Until now, the city of Korea has been actually a disorder development emphasizing the economic aspect. However, It will be a smart city based development in the future. These include waste engineering, value engineering, safety engineering, civil engineering, architectural, engineering, service engineering, public policy, public service, universal design, crime prevention environment design, energy zeroes, shared economy, and smart grid. So far, in ubiquitous urban development, service developers, designers, and other suppliers were the main developments. Nowadays, Citizens have to change their clothes with the paradigm of the 4th Industrial Revolution. The cloth you were wearing was the cloth you wore in childhood, but the clothes that you now are wearing are adults'. How uncomfortable would it be if you kept wearing it? It is familiar and durable, but now it is time for bold change and time to take off old one and put on the the clothes that fit your body. It is also necessary to develop a smart city by appropriate technology for citizens[2,3].

The Smart City is the cradle of the fourth industrial

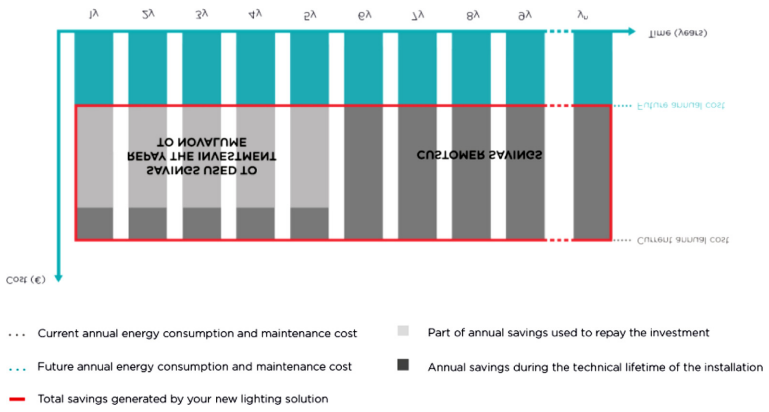

Fig. 1. Positive cash flow (investopedia).

revolution. South Korea has the possibilities and capacities to make the cities of Busan and Sejong succeed in a leading Country. 5G gets all the space of smart urban environment and is more advanced information on things, and it will be going. And citizens' ethics and spirit, attitude, and also will have to be more important. Everything that is related to human being should be fostered.

3. Smart City Development Strategy for Human Based

The aim of this section is to explore the ways in which some of the urban planning and Smart city development with urban dwellers look for. Smart city concept is a detailed version of the idea stated in meaningful urban dwellers.

Smart city image is the way urban dwellers perceive an actually. Systematic new smart city development is an innovative approach that collects, shares, reviews, evaluates. Smart city development involves the creation[4].

Normally, larger cities accommodate larger complexes of specialized activities. Sometimes, cities grow at a rate that overwhelms their communication systems. In such circumstances, city officials must dedicate resources to improving connectivity and accessibility or accept the limits imposed by an obsolete circulation system. The more efficient the IoT, the more likely it is that a city area will grow[5].

Contents of smart city ideas have internal sources and external ones as well. For cities to function, they must have nodes and linkages that allow for an efficient flow of data, services, and citizen's ideas. Nodes are the city hall and landmark, public transportation facilities. The cities linkages are streets, roads, docks, highways, telephone and internet. 5G gets all the space of smart urban environment and is more advanced information on things will be going.

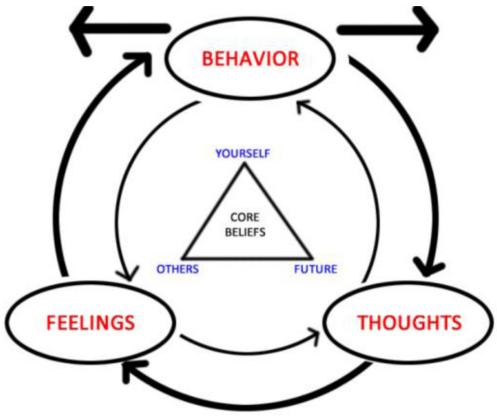

Fig. 2. Free encyclopedia (from Wikipedia).

The human component is increasingly recognized as central to the smart city and citizens' ethics and spirit, attitude, and also will have to be more important[6].

Fig. 2 diagram depicts how emotions, thoughts, and behaviors all influence each other (from Wikipedia).

4. Declaration of The 4th Industrial Spirit Revolution

The 4th Industrial Revolution has been transformed into a robot, and industries have been transformed. The participation of industries through these robots is spreading to education, health care and safety. The phenomenon that robots enter and participate in the industry is closely related to the rapid changes of Smart City, Smart Farm, and Smart Factory[5].

The 4th industrial revolution era is changing all things into intelligent and is rapidly changing into a human based society. At present, there are many changes in the way in which various industries work. It is true that in some industrial sectors, simple labor has already changed. The owner of the city is the resident and the customer who uses the city[6].

The city's tools are systems that provide city services and its devices. And it is landmark, and it is building, infrastructure, advertisement. It's awkward to see the ad at first, but it's just overkill, but if you see it often, you're interested and curious. There are many cases in which we do not know and prefer to pick up the product. This is called the Eiffel Tower effect.

In the United States, the arrival of spring is marked for most urban dwellers by the opening of the baseball season. The first ball is thrown by the President and thereafter, millions of citizens enjoy the baseball season. Similarly, the end of summer is distinguished as much by the World Series as by any natural symbol.

We wish to focus attention on humanitarianism and ethics in a city. In order to live simply, it is necessary to know how we can show and live in the smart city. We have seen the sentence "One reason why computers

can do more work than people is that they never have no stop and answer the phone. Nowadays, when the environment of the Fourth Industrial Revolution comes, the most important things will be human spirit and ethics[6,7].

To conclude, mentioning some of the further problems is raised by this approach for 'Declaration of the 4th industrial spirit revolution'

Declaration of The 4th Industrial Spirit Revolution:

We, as men of the 4th Industrial Revolution Era, found the necessity of spiritual revolution and purpose, set standards that we can carry on, and declare that we should observe as follows:

1. We understand current industrial development, and are responsible for technology and service of the 4th industrial revolution era, and with the spirit of doing our best of our role, acquire all necessary qualities.

2. We protect nature and natural resources, in all the industrial processes of supply-chain, consumption, evaluation, and practice the spirit of coexistence and humanitarianism.

3. For those having fair, innovative ideas, we open and share the ideas to the public in order to realize their values, and have the fair right in order to enjoy the progress of science and technology.

4. Everyone, whenever, wherever, has rights of living in the environment offered by the 4th industrial service followed by the principle of indiscriminate embracement and reciprocity, justice, and sharing.

5. We support and put into practice the system and technology in order that may protect individuality and their property.

6. We put into practice to supply the 4th industrial technology and service which have the resilience of recovering to guarantee the society of safety from incident and accident, and disaster and calamity.

7. We try to build and work for the reformed system which, upon identifying the illegality and discrimination of society, and alienation, takes the necessary measures.

8. In that we create human centered society that possesses and utilizes together, we lead to the practice of "space democratization".

9. Even though it is a new revolutionary technology, it does no harm to human beings and the nature. We never take a part in such work, but we try our best for mankind's peace, coexistence, and advancement.

5. Conclusion

This study investigated how we should prepare smart city by preparing for the fourth industrial revolution era. As urbanization progresses, large-scale destruction and complex disasters are foreseen.

It is more important to emphasize the ethics of the residents in the intelligent society. But, No attempt has been made to declare about the citizen's spirit in the fourth industrial revolution. In the era of 'the Fourth Industrial Revolution', in order to become a leading country of Smart City, we must first complete the spiritual revolution.

From this point of view, this study proposed the 'Fourth Industrial Declaration of Spirit Revolution'.

Through this declaration, I hope to be a guide to the success of the Fourth Industrial Revolution. It is also hoped that this research will serve as a platform from which studies of greater depth and specificity may be undertaken.

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