

INFORMATION SERVICE FOR ADVANCING WORLD SEVER NETWORK TV : IN A CASE STUDY OF WSN FOUNDATIONS FTTH INITIATIVE

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ABSTRACT

World Server Network TV (WSNTV) is a global education, entertainment and media organization. WSNTV100 goals are to bring low-cost higher education and entertainment to the worldwide population, and to promote the spread of broadband internet access that will make it possible to achieve those goals.

Fiber based broadband Internet is creating a new international content and communications economy. This new initiative is creating new business and creative opportunities, and generating wealth.

Fiber-To-The-Home (FTTH) is the state-of-the-art broadband transmission. FTTH is capable of transmitting data, video, and voice at 100-1,000 Mbps

In comparison, phone modems are only capable of 0.05 Mbps, DSL only 1.5 Mbps and digital cable modem only 1.5 Mbps. All of these technologies use a shared pipe characteristic. This translates to slower speeds when more people are connected using the same pipe. With FTTH, people can easily consume and create a wide variety of multimedia content

WSN Foundation's goal is to offer free fiber with 10 billion web pages containing volumes of information, home and food to a billion families, and 7 billion in population around the world by 2025 by allocating 70% of 10 million WSN business profit and directing \$10 trillion annually from local and national governments, electing politicians and officials who promote peace and FTTH throughout the democratic political process.

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THE FUNCTIONS OF WORLD SERVER NETWORK TV AND OVERVIEW OF FTTH

The WSN business plan is larger in scope than usual business plans that are only written for a single product or a single technology or a single industry or a single country. The WSN business plan covers multiple industries such as entertainment, education, and research in multiple countries via fiber and broadband technology.

WSN is a 50-year lifetime project of founder Victor June who has published more than 100,000 pages along with many of the WSN executives/managers. These 1,000 online books focus on Solutions for the Broadband Era. They cover Information Age global economics and international finance in 100 industries including the education, entertainment, and media businesses.

The WSN knowledge base of 100,000 pages of information and education about development of Internet business was based on 10 WSN broadband business trials over the past 10 years. The most recent trial involved using 100 Mbps Korean FTTH in a WSN model home. This Korean FTTH was deployed by Hanaro Telecom and funded by the Korean government, Sam Sung, LG, SK Telecom, AIG-American Insurance Group, and Newbridge Capital.

These 100,000 page proprietary business manuals form the basis of this business plan. It will eventually be condensed into a 1,000 page corporate standardization manuals and financial documentation for the billion dollar projects. Professionals who have experience and contacts for multi-billion aggregated deals will prepare documentation

WSN TV is a global entertainment and media organization engaged in the development, production, and distribution of television programs and movies. Business World News (<http://www.businessworldnews.com>) as Emmy award winner produced a 30-minute video about WSN TV's corporations and foundations for national and international television marketing. The objective is to educate the consumer and businesses as to why they need to demand fiber.

WSN TV took on the mission in this video to encourage the deployment of high speed fiber that is a minimum of 10 x faster than DSL/Cable and 50 x faster than 56k modem dialup to allow Information Age business to develop and thrive. Slow implementation causes a long, slow decline in traditional business that is painful. Fast implementation will allow business to be competitive on a global basis by saving time and money to deliver their digital content and information directly online.

Fiber to the home (FTTH) is the ideal fiber-optics architecture. In this architecture, fiber deployment is carried all the way to the customer home (premises).

Today it seems that everyone wants high-speed data, dependable voice service, and high-quality video. Whether these services are delivered by digital subscriber line (DSL), cable modems, or wireless architectures is insignificant as long as the service is fast and dependable.

Providing these services, however, presents a number of challenges, including how to get lines out to each customer and how to future-proof the architecture put into the ground today. This tutorial will address one possible solution, which is a fiber optics architecture called FTTH.

A technology that uses glass (or plastic) threads (fibers) to transmit [data](#). A fiber optic cable consists of a bundle of glass threads, each of which is capable of transmitting messages [modulated](#) onto light waves.

Fiber based broadband Internet is creating a new international content and communications economy. This new initiative is creating new business and creative opportunities, and generating wealth.

Fiber-To-The-Home (FTTH) is the state-of-the-art broadband transmission. FTTH is capable of transmitting data, video, and voice at 100-1,000 Mbps. While this speed is not required for all forms of Internet business, it is certainly required for uploading and multiple party accesses of large data files including multimedia entertainment and education programs.

In comparison, phone modems are only capable of 0.05 Mbps, DSL only 1.5 Mbps and digital cable modem only 1.5 Mbps. All of these technologies use a shared pipe characteristic. This translates to slower speeds when more people are connected using the same pipe. With FTTH, people can easily consume and create a wide variety of multimedia content.

Fiber was laid on the main arteries of the larger developed countries roads. However, it was not brought to the consumers home, but simply left on it's own. When it is not used, it is considered not "lit". Therefore, the term "Dark Fiber" was invented. The dark fiber backbone has been contributing to the telecom' massive bankruptcy, allowing the FTTH era to broaden through cheap auctioning by international and domestic fiber assets. This resulted in \$ 4 trillion scale loss for investors/bond holders.

These new or old corporations tried to implement a dot.com, and either went out of business or closed the dot.com because they tried to produce content without the speed of broadband. They lost over 20 trillion dollars in equity/loans in the past 7 years and will lose everything in next 20 years. These businesses have a high overhead, and are not willing to give joint ownership to the content originators. This will be their downfall.

The Main reason for the \$ 6 trillion loss, mostly comprised of retirement funds for tens of millions of small and professional investors, was due to phone and cable companies delaying broadband expansion. They were concerned about the cannibalization of their \$ 1 trillion annual phone and cable TV revenue.

This delay ruined telecom, dot.com, cable TV industry and overall economy, all of which have suffered a slow death for old business and premature death of new business. Only when the pipe-bandwidth is cheap can water-content be sold at a profit.

Current economic growth is dependent on broadband access. There are approximately 55 municipalities in the US deploying FTTH. Unfortunately, the US is not leading this economic revolution, and is falling behind other countries like Korea, Japan, Sweden, and Italy, each of which are targeting 100% FTTH deployment by 2006.

Korea achieved 100% 1.5 Mbps DSL/cable/Ethernet based broadband society in 3 years when US only penetrated 15% in the past 8 years. Korea upgraded 1.5 Mbps speed broadband to 100 Mbps FTTH with government budget allocation of \$ 500 per home. 100 Mbps FTTH deployment cost was actually lower than the 1.5 Mbps cable/DSL deployment due to removing the middlemen of cable/DSL modems and heavy cost plants.

A WSN Foundations opened FTTH Initiative model projects in Korea in Oct. 2002. Korean individuals, businesses, communities, and governments (both local and central) each made a consensus that fiber to the home is the solution to increase economic size by 10 fold in next 30 years, during the first half of 21st Century.

FTTH will cut paper/oil consumption by using online communication and encourage working, learning, playing, and shopping from the home, rather than driving cars to office buildings, schools, theaters and shops.

This will benefit our air/water quality by reducing automobile pollution, resulting in a dramatic reduction of oil consumption worldwide, and will reduce political tension in Middle East. Wars and Terrors occur in the world because of the struggle to control the earth's natural resources, such as oil and gas.

GGDP-Global Gross Domestic Product is 40 trillion dollars annually now, and will expand to 400 trillion dollars in next 30 years by FTTH. 12 trillion dollars is required for basic needs of home, food and cloth, averaging 2,000 dollars annually. Of course, OECD people spend \$15,000 per a person, but most population of Africa, South East/West Asia, China and South/Central America spend less than \$1,000 annually; \$80 monthly, barely surviving. No wonder this inequality is the root of wars, tension, and terrors.

THE NEED FOR FTTH INFRASTRUCTURE

Investing in economic infrastructure creates economic booms. In the 1950's, President Dwight Eisenhower's' administration invested in the building of the Interstate Highway System. This increased commerce by facilitating the transportation of goods across the country. In the 1960's, President John Kennedy administration invested in the building of rocket ships. The technology developed that sent men to the moon created a whole new economy based on space technology and computers. In the 1990's, the US and advanced

countries invested in the building of the Internet to wire fibers to towns as part of NII-National Information Infrastructure.

The channels for communication and delivering information fostered a new economic age. But the last mile bottleneck by lack of fiber to the home reduced a \$10 trillion fiber to the town invested asset to only \$10 billion value, opening up a big opportunity for fiber to the home deplorers.

There are four great economic ages: The Hunting and Gathering Age, The Agriculture Age, The Industrial Age, and The Information Age. The latter three ages were born in technological revolutions and each increased global economic wealth more than ten times. It is forward thinking investors who reap significant benefits by recognizing major technology driven economic trends. The people who recognize the birth of opportunity that only comes every few hundred years establish the next generation of wealth.

In the Industrial Age, companies moved physical products, which contain information from factories to stores via ship, railroad, trucks, and cars. In the Information Age, companies move virtual products, which contain information from computer to computer, via the Internet without a physical medium.

The foundation of the Internet economy is the ability to send information around the world easily and quickly. The delivery of virtual products such as education and entertainment videos, graphics, and music requires high-speed Broadband Internet connections. These Broadband connections are based on fiber-optic technology.

In the early 1990's, when the Internet was first made available to the public, Internet connections were slow. Dial up modems based on copper wire technology running at speeds of up to 56 kbps allowed the transmission of only text and graphics.

When ISDN, digital cable modem, DSL, and wireless Wi-Fi came along, people were able to send small music and video files at speeds of up to 10 Mbps. Today, Fiber-to-the-Home and Ethernet transmit full-frame, feature length video and holographic virtual reality content at speeds of up to 1,000 Mbps. Wavelength division fiber cables achieve speeds on the order of Terabits per second speeds (1,000,000 Mbps).

When all people have access to FTTH and Ethernet, they will have no difficulty creating and selling virtual products from their homes and transmitting them to consumers all over the world. But areas where residents deploy gigabits per a second fiber to the home earlier than other areas will accumulate complex broadband business knowledge and lead the next economy.

In the Information Age, economic evolution favors knowledgeable people who are quick to adapt to change. First movers seize the advantage and reap the greatest rewards. These technology driven changes will create more wealth than the world has ever seen, at the same time destroying wealth based old technology.

WSN FOUNDATION'S GOAL AND 100 INDUSTRIES BY FTTH

WSN Foundation's goal is to offer free fiber with 10 billion web pages containing volumes of information, home and food to a billion families, and 7 billion in population around the world by 2025 by allocating 70% of 10 million WSN business profit and directing \$10 trillion annually from local and national governments, electing politicians and officials who promote peace and FTTH throughout the democratic political process.

FTTH - Fiber-To-The-Home is practical broadband of 100~1,000 Mbps. 1~5 Mbps DSL/Cable/Wireless were the interim mid-band solution.

FTTH can offer bi-directional symmetrical bandwidth for both uploading for information sellers, and downloading for the information consumer. Current media, such as TV, radio, newspaper, books, and CD's are only a means of a one way consumption.

FTTH will allow average people to not only consume information, but also supply and/or sell information at the same time. They will be able to run web, email and video servers from homes. 90% of corporate, business, government and academic activities are processing information individually and collaboratively.

Communities who learned the importance of this around the world are deploying FTTH as fast as possible. A similar urgency occurred when they laid railroad, electricity, water, waste, telephone and freeways in the past.

Sweden, Korea, Japan and Italy plan to have 100% FTTH in 2006, during the next 4 years. They have all been piloting example cases of FTTH and expanding with government budgets and commercial enterprise investment.

In USA, already 55 towns/counties are piloted with FTTH with increasing penetration and signup ratio. Certain communities had a 100% signup in the case of new housing projects, with some communities having an 85% signup.

The rest of the communities who had a DSL/Cable mid-band solution had a 25% signup ratio, with an expected increase to 50% in the next year. FTTH, being 100 times faster and priced less, will erode the slow and expensive DSL/cable modem market in future.

There are currently 100 million homes in USA. This is expected to rise to 110 million homes by 2010. These homes are broken down as follows:

Urban: 40%
Small towns: 30%
Rural: 15%
New housing projects: 15%

Since Small towns, rural, and new housing project constitute a relatively small amount of homes per area, they are often overlooked by the telephone and cable companies. This amounts to 60% of homes in America.

Instead of waiting for broadband or mid-band service for the past 10 years, these communities have solved information pipe problem themselves by deploying FTTH, making DSL/cable/phone modem obsolete.

Virginia state, Bristol city municipal utility company brought fiber to home by using PON-Passive Optical Network technology which can speed the network up to 100 Mbps.

UDWDM-Ultra Density Wavelength Division Multiplexing technology can supply 1,000 Mbps speed to each home by using 1,280 channels of single fiber.

Most bankrupted international, national and regional fiber assets were auctioned off at less than 10% of the original investment in cost of investors and lenders.

These trends have made the wholesale bandwidth price affordable for retail bandwidth sellers to homes.

Advanced fiber technology will drop the bandwidth price in the future to almost zero cost. There are huge economic development differences between communities who have FTTH and those that don't.

Highly educated and experienced office or home based businesses are abandoning the slow speeds and are migrating to 100~1,000 Mbps FTTH, not only increasing income and decreasing expenses, but are also providing a better learning environment for their children. This fact will force all communities to adopt FTTH faster in order to survive and prosper in the broadband era of the Information age.

Many urban residents and businesses will re-migrate to FTTH rural, small towns and new housing development. This is a reversal trend of which 80% of rural agricultural population migrated to industrialized cities. People will be able to work and learn in these areas with the same or higher quality level as those in urban areas. This will ease concentration of the population centers, and will reduce stress, pollution, and crime, and will promote peace worldwide.

200 million people have died in the wars of the past, over 10,000 years Hunting, Agricultural, and Industrial Ages. This is enough of a lesson for both this and the next generation.

This is a few of the many reasons why WSN will proceed with the FTTH initiative, working with leading technology companies, service providers, governments, and, mostly, with community residents.

WSN's thousands of non-profit foundations will promote local FTTH initiatives, especially economic and educational disadvantaged communities and countries.

WSN participants will endorse and assist the election campaign efforts of FTTH friendly politicians and elected officials, who will, as a matter of priority, allocate \$ 10 trillion annually to aggregated budgets and assist with FTTH projects.

WSN will develop a new business with strategic alliance and outsourcing once there are 1,000 Ph.D. level educated or experienced executives, each with managers and producers for the following industries, and will have 10 billion accumulated global customers:

1. Airplane
2. Space - satellite and space travel
3. Defence

4. Automobile
5. Auto-part
6. Auto service and sale
7. Private Bank
8. Trust bank
9. Commercial bank
10. Retail bank
11. Investment bank
12. Chemical
13. Fragrance
14. Soft-drink
15. Fashion cloth
16. Home appliance
17. Shoes
18. Bags
19. Cosmetic
20. Beer
21. Underwear
22. Casual cloth
23. Detergent
24. Electronics
25. Containers
26. Packaging
27. Home maintenance material
28. Discount merchandizing
29. Department stores
30. Toys
31. Electricals
32. Silicon chips
33. Fiber Optic manufacturing
34. Grocery
35. Food processing
36. Candy manufacturing
37. Food growing
38. Oil Refinery
39. Oil exploration
40. Alternative energy
41. Pharmaceutical
42. Bio-industry
43. Health Care
44. Senior Care
45. Hospitals
46. Medical equipment
47. Drug wholesale and retail
48. Home building
49. Real Estate brokering
50. Real Estate management
51. Motorcycle
52. Bicycle
53. Fast food chain
54. Restaurant chain
55. Hotel

56. Casino
57. Film and cards
58. Tool
59. Machine
60. Engine
61. Generator
62. Metals
63. Mining
64. Mortgage financing
65. Casualty Insurance
66. Life Insurance
67. Mutual fund
68. Hedge Fund
69. Bond fund
70. Money market fund
71. Credit Card
72. Venture Capital
73. Education financing
74. Stock brokerage
75. Computers
76. Office equipment
77. Software
78. Game
79. Paper
80. Forest
81. Publishing
82. Broadcasting
83. Cable TV
84. Tax service
85. Office service
86. Phone
87. Data backbone
88. Data retail
89. Wireless
90. Ground Shipping
91. Ocean shipping
92. Air shipping
93. Airline
94. Power
95. Gas
96. Movie
97. Music
98. College education
99. High school education
100. Elementary education

FIBER TECHNOLOGY AND ECONOMICS

1 Gbps (1,000 Mbps) is the needed speed to take full economic advantage of the virtual world. The top speed for Passive Optic Network (PON) technology is only about 100 Mbps.

It can be deployed for about \$1,000 per home.

Active Fiber Networks (AFN) run at about 1 Gbps. AFN's are only 20% more expensive than PON's and the speed is 10 times faster. With regular deployment of AON's, the price will soon be the same.

Cable and phone companies are caught between a rock and a hard place. They have no future if they don't deploy FTTH and no future for keeping the monopoly of voice, video and data market if they even do. If they do not deploy FTTH, they will face competition from local governments, utilities, and WSN.

Cable and phone companies restricted the deployment of FTTH because they knew their businesses would be cannibalized. This is why there is so much "dark fiber" in the US. They installed the fiber to the curb, but did not connect it to the house where people could use it.

Why are the phone and cable companies going to lose their business? Fiber based broadband allows people to distribute voice and video content through their Internet connections. There will no longer be demand for phone and cable services through slow connections.

There are approximately 1 billion households in the world. \$1 trillion is enough to wire every household with FTTH. That is only 0.16% of the world's \$600 trillion wealth. The wealth and income resulting from this information-based economy will be 10 times larger than the physical based economy.

For example, 3 billion Chinese, Indians and Africans who never consumed will be able to produce and consume education, entertainment, virtual travel and health at the same level of OECD nation citizens.

The wholesale cost per Gbps of fiber decreased from \$10 trillion to less than \$10 billion. It is now 1,000 times cheaper because ultra-high density fiber splits a single fiber into 1,280 fibers that each provides a bandwidth of 1 Gbps each. This provides a total bandwidth of 1.28 Tbps per fiber line!

WSN forecasted these trends 7 years ago and prepared to take advantage of them by selling multimedia content through high-speed fiber.

A New breed of PC has 1,000 MB memory/100 GB hard drive, costing \$1,000. The next PC will have 5,000 MB memory/1,000 GB hard drive, costing \$2,000, and will be maintainable by us using cheap and easy home based web hosting software. These home based servers PCs are appliances just like any other in the home, such as a TV or refrigerator. It can be located under kitchen sinks or in a closet. Most NOC/ web hosting companies will go out of business by FTTH. WSN will be able to buy them a cent on the dollar. WSN has found cheap and easy home based hosting software that suits. WSN will install it on PCs that connect to Internet at speed of 100 Mbps.

Members will enjoy profit sharing as either producers or marketers, because they want to make money on 100 Mbps FTTH. WSN Foundations will expand these economically viable projects to 7 billion people.

Many WSN executives/managers are creating their own multimedia financing, marketing

and producing organizations on their WSN domains. Thousands will expand their WSN domains in future. The WSN financing and marketing structure has proven well, and is now progressing to a multimedia content producing structure.

The costs of content development projects are broken down in to 10% Advertisement, 30% Marketing between producers and consumers. 40% of these costs belong to middlemen. This is why we pay such high prices for products. Costs of manufacturing are usually considerably less than the end retail cost. The money given to middlemen could easily get rid of starvation in a third world country. Broadband will lower these costs substantially by giving developed content to consumers directly.

WSN FTTH initiative can use this income to offer free fiber (free fiber is about \$1,000 per home investment, \$20 dollars monthly), free housing (\$1,000 monthly can cover decent housing and utilities around the world) and food/etc (\$970).

Free fiber can supply 20 billion web pages containing free education, entertainment, health and services. 180 billion web pages will be offered for transaction and subscription use.

FTTH based content business case study and FTTH industry in Korea

WSN TV 75 Inc. opened FTTH content center in Gunpo city, Korea where first 100 Mbps FTTH project in the world was deployed in 2002. Because of bi-directional 100 Mbps speed, WSN member residents successfully installed fiber home based servers to host/market digital content without hiring/paying expensive web servers in data centers.

7,000 homes in MDU, multi-dwelling-units of Kunpo City, Korea have a 2,500 Mbps backbone, 155 Mbps fiber and 100 Mbps Ethernet connections. This speed can be upgraded to FTTG 1,000 Mbps-Gigabits Ethernet to homes.

Testimonials from Kunpo City, Korea where 100 Mbps FTTH has been available. These participants pay \$25 monthly with free local phone to greatly improve their lifestyles.

A terabytes digital content hosting based on Linux dual CPUs PC(1,000 hours of digital movies/videos) in fiber home costed \$ 100 monthly rather than \$10,000 monthly for storage and bandwidth in data center.

WSN TV 75 Inc. is testing FTTH deployment and content business in Gwangju City, Korea where 1,000 Mbps FTTH was deployed for triple play of phone, TV, Internet data service including 3D virtual reality application first in the world in 2003. This project will increase speed to homes to 10 Gbps-10,000 Mbps for teleprocesses application by 2008.

Gwangju City Photonics R&D and industry complex target to produce \$10 billion fiber optic equipments/parts-10% of \$ 100 billion FTTH market to wire 100 million homes globally by 2010. Their current investment size is \$1 billion.

CONCLUSION

Many people around the world are unable to attend an College/Master/PhD program due to the impossible costs. These people are located all around the world, such as Africa,

South America, Chinese, and Indian. These countries make up 67% of the world population. Lack of education has made it impossible to make an adequate living or provide a better life for the next generation. These people are barely surviving.

There is a strong and reasonable anticipation of increasing technological advances in computer internet innovation, applications, and general accessibility. These factors, in conjunction with the use of proven value added network building techniques and methodologies that encourages proactive participation and self-motivation through revenue generation and sharing opportunities, WSN TV will be far more effective and profitable than other internet businesses. This is due to the lack of expenses in a traditional business sense

Keeping American/European and few advanced Asians wealthy by keeping nation state boundary will not solve the global problem. FTTH, free homes, and free food will. This is WSN's eventual goal.

Government officials and politicians, who are public servants, not rulers, around the world must co-operate WSN foundations' FTTH initiative, charitable and humanitarian global projects.

When all people have access to FTTH and Ethernet, they will have no difficulty creating and selling virtual products from their homes and transmitting them to consumers all over the world. But areas where residents deploy gigabits per a second fiber to the home earlier than other areas will accumulate complex broadband business knowledge and lead the next economy.

In the Information Age, economic evolution favors knowledgeable people who are quick to adapt to change. First movers seize the advantage and reap the greatest rewards. These technology driven changes will create more wealth than the world has ever seen, at the same time destroying wealth based old technology.

Fiber technology is reshaping the world economy and politics. Unlike the agriculture and industrial economies, the means of production and access to the marketplace in the information economy cannot be controlled by a small number of people because the means of production is the human mind and access to the marketplace is an Internet connection.

Success in the information economy depends on 2 ways communication and cooperation, not one way control and domination.

WSN TV knows the consequences of these irreversible economic macro-trends and planned accordingly. When these 10,000 dinosaur multi-national corporations try to dominate the world economy and politics the way they used to, they will discover that the rule of game has changed.

WSN TV is an open, peaceful, and voluntary world society, economy, and government. We will allocate our trillion-dollar grants from 10 million WSN foundations to support a new breed of Information Age politician who support our global mission of charity, education, and economic equality.

The politicians that we endorse will budget for free fiber homes and food for 7 billion people.

REFERENCE

www.wsntv100.com
www.wsntv75.com