FUJIKURA NEWS 10

2020
No.470

Fujikura Modern history -6
Active management and expansion of research

In 1965, after Hisaharu Kuriyama's appointment as president, a new management philosophy was announced, and Fujikura's proactive total quality control (TQC) was stepped up. The company's modernization also sped up with the strict corporate philosophy and stipulation of standards applied companywide, including the addition of the quality control section to the manufacturing division and the internal standards secretariat to the president's office. A research center was built in Fukagawa to increase the efficiency of increasingly diversified research and development. The latest facilities, including different laboratories, air conditioners, water pools, and security and disaster prevention systems, were actively housed in the research center and advanced technological development.

Research Center (October 1967)

Exhibition

Fujikura Joins CEATEC 2020 Online Exhibition

CEATEC 2020 ONLINE
CPS/IoT EXHIBITION

Dates and times
Tuesday, October 20 through Friday, 23, 2020, 10:00-17:00

Fujikura joins CEATEC 2020 ONLINE to be held from Tuesday, October 20 through Friday, 23, 2020. This year's CEATEC is held online for the first time on the theme of "Connecting Society, Co-creating the Future" and the slogan of "CEATEC 2020--Toward Society 5.0 with the New Normal." At Fujikura's booth, our products and services essential for a current and future network society are on display in an easy-to-understand way. We are looking forward to your visit.
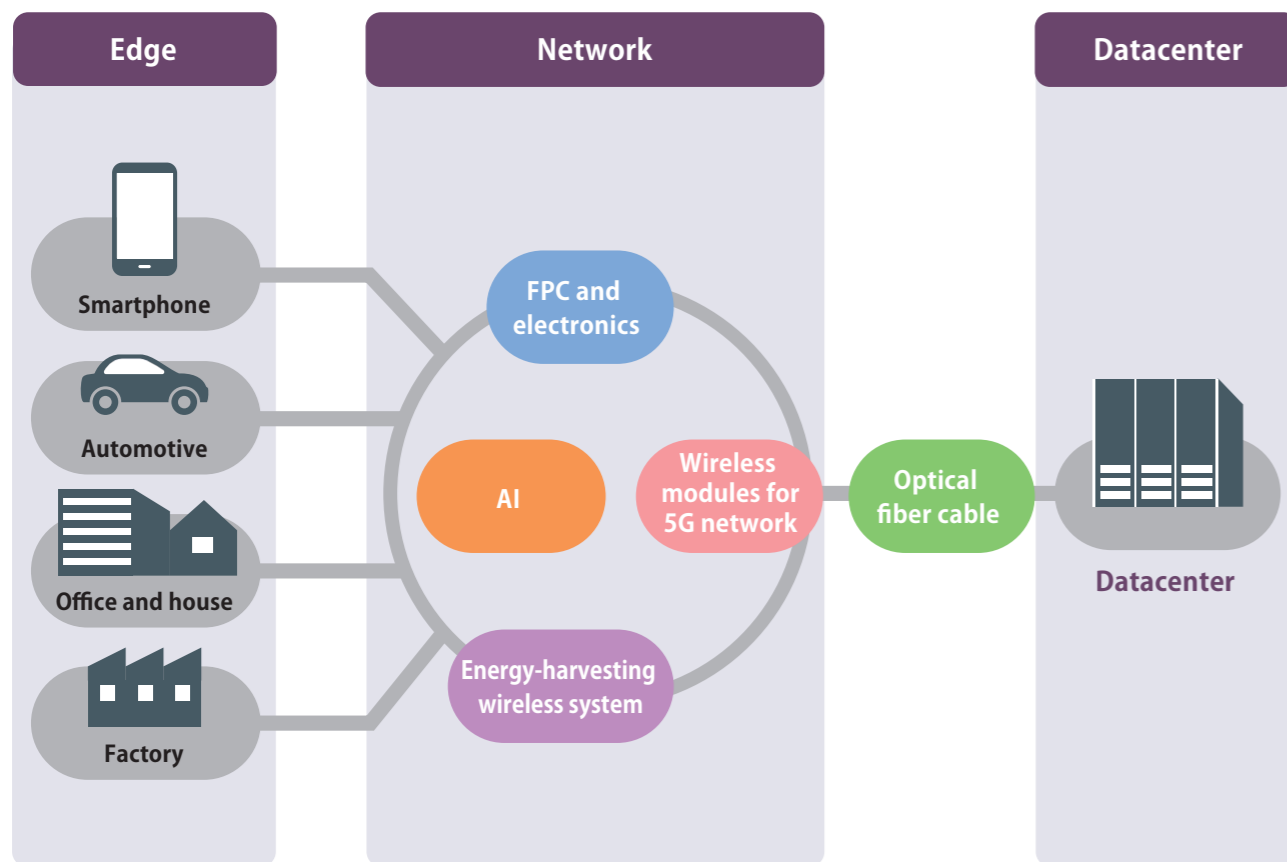
Shaping the future with "tsunagu" technology.

2020
10

● Fujikura's online booth URL：https://online.ceatec.com/event/92/booth/1004

● Archive period：Thursday, October 23, 17:00 through Friday, December 31, 2020

CEATEC2020 FUJIKURA

Fujikura

Fujikura's "Tsunagu (connecting) Technology Contributes to Building of Safe and Convenient Network Society

The trend toward telework, which has spread rapidly since this year, is irreversible and the proliferation of networking will clearly accelerate all over the world. Our "Tsunagu" technology contributes to building safe and convenient network society. The drawing below shows the place of our products in a network society.
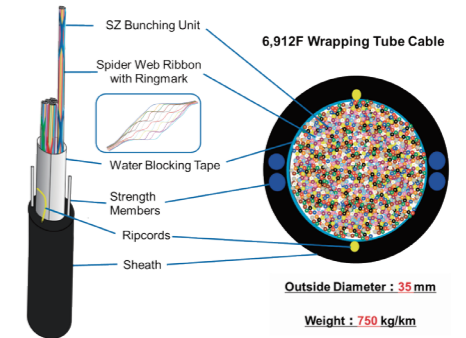
Fujikura's concept for the exhibition

Edge	Network	Datacenter

- Smartphone
- Automotive
- Office and house
- Factory

- FPC and electronics
- AI
- Wireless modules for 5G network
- Energy-harvesting wireless system

Optical fiber cable

Datacenter

Fujikura products supporting network society

Fujikura has a wide variety of high-fiber-count, ultra-thin, high-density optical fiber cables (SWR®/WTC®) as main products to build a network society. Spider Web Ribbon (SWR) with single-core optical fibers arranged in row and bonded in places is characterized by the ease of change in shape. This contributes to the high density and reduction in diameter and weight of the cables and allows one-time fusion splicing simultaneously.

A wrapping tube cable (WTC) containing SWRs has a structure that accommodates 6,912 optical fibers at a maximum in the cable and is aimed at extremely reducing the diameter and weight. Thus the optical cables are suitable for significantly wide applications such as all the regions from the front haul, middle haul, back haul and through core network and also for installation between datacenters.

SZ Bunching Unit
Spider Web Ribbon with Ringmark
Water Blocking Tape
Strength Members
Ripcords
Sheath

6,912F Wrapping Tube Cable

Outside Diameter : 35 mm
Weight : 750 kg/km

At CEATEC this time, our products including optical fiber cables (SWRs/WTCs) with a high-density small-diameter structure are divided into 5 exhibition channels as a technology to support a network society. In that way the display enables visitors to easily understand the contents. The following introduces the details of each exhibition channel and the products on display.

Optical Fiber Cable to Support Super-Smart Society

While data communication volumes are explosively growing because of big data, 5G, and IoT, most of the networks have been connected to optical fiber backbone cables. Ultra-high-fiber-count, fine, high-density optical fiber cables to deal with the increase are put on display. In addition, Fujikura researches on multi-core fibers, where multi-cores are placed in each optical fiber. Furthermore, the exhibition introduces wiring solutions for datacenters that process a huge amount of data.

Core
Diameter of 125 μm
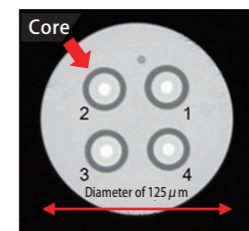
## Wireless Module for 5G High-speed High-capacity Transmission

Fujikura has developed a 60 GHz wireless communication module that is compatible with new frequency bands (66-71 GHz) for 5G using the results of our research and development to date and started providing the samples. In addition, we also work on the development of RF modules for 5G millimeter-wave frequencies (28 GHz and others), which have been globally expanded in use, aiming at new markets.

● mmWave wireless communications URL : https://mmwavetech.fujikura.jp/

FPCs and Electronic Components Essential for IT Products

Fujikura provides electronic components such as flexible printed circuit (FPC) boards, membrane products, electronic wires, connectors, and thermal solutions, which are used in wide application areas including smartphones, datacenters, and supercomputers. The exhibition explains about these electronic components in a simple and understandable way.

Shaping the future with "Tsunagu" Technology.
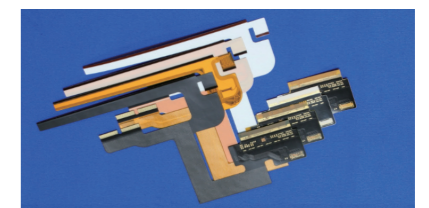
Energy-harvesting Wireless Sensor System Driven by Dye-Sensitized Solar Cell

We provide energy-harvesting sensor systems that run on electricity generated by dye-sensitized solar cells and suitable for 920 MHz wireless band and application services through our own IoT Cloud. The exhibits in this time include solutions, for example, for the prevention of heat stroke. For heat stroke prevention solutions, our newly developed sensor system based on Wet-bulb Globe Temperature contributes to preventing heat stroke. The system monitors Wet-bulb Globe Temperature at each point in the IoT Cloud and, in case of emergency, the system informs the people concerned by changing the display color or sending emails in the Could in a timely manner.

● DSSC URL： https://dsc.fujikura.jp/en/
● IoT solution to prevent heatstroke URL： https://eh-iot.fujikura.jp/

Manufacturing and Securing of Safety Using AI

Our policy for applying deep learning

While AI has not been applied rapidly in the manufacturing industry, Fujikura started the initiative to apply AI, especially deep learning, to manufacturing in 2017. CEATEC 2020 features our concrete efforts based on our policy (1. Expansion of sustainability, 2. Securing of transparency, 3. Securing assurance and safety, 4. Creation of value) in proceeding with the application of deep learning.

持続可能性
カイゼンの継続

透明性
納得が得られるAI

Ai

安心安全
AI不安の解消

価値創造
社会や事業へ貢献

Intelligent Sound Classification

We develop an intelligent sound classification (ISC) technology that uses AI to distinguish between normal and abnormal in subjects inspected on a production line from sound data. Sound data collected with a microphone includes frequencies, sound pressures, cycles and patterns and is analyzed by AI, which finds abnormal sounds. This ISC is expected to be used on product lines for predictive maintenance, whereby machines can be repaired before breaking down. In addition, as another application example, the technology can be used to detect the slack of chain of motor cycles and urge adjustment in the slack for safety. CEATEC 2020 showcases these ISC applications.

ISC Sensor
Advanced Sensing Technology

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