Medicaroid Corporation jointly developed a Medicaroid Intelligent Network System (MINS) for hinotori™ surgical robot system with OPTiM Corporation and Sysmex Corporation

~ AI analyzes all data collected by surgical robots ~

Medicaroid Corporation (Headquarters: Chuo-ku, Kobe City, Hyogo Prefecture; President: Kaoru Asano; hereinafter referred to as Medicaroid) has announced that it jointly developed a Medicaroid Intelligent Network System (MINS) with OPTiM Corporation (Tokyo Headquarters: Minato-ku, Tokyo; President: Shunji Sugaya; hereinafter referred to as OPTiM) and Sysmex Corporation (Headquarters: Kobe City; President: Hisashi Ietsugu; hereinafter referred to as Sysmex). MINS has been developed as a platform for network support system aimed at supporting the operation of hinotori™ surgical robot system (hinotori™), for which Medicaroid acquired domestic marketing authorization on August 7, 2020, supporting the safe and efficient use of operating rooms, and facilitating the inheritance of surgical procedures. MINS operates based on the AI/IoT platform service "OPTiM Cloud IoT OS" provided by OPTiM.

As the first set of services, MINS provides the following remote support.

1. Collection and accumulation of log data
   By collecting the operating status and error information of hinotori™ in real time, the Medicaroid support center is able to handle operational inquiries and problems of customers referring to the collected information on a remote basis.

2. Video distribution and viewing
   Through the live video distribution and viewing of an operating room via Video Streaming as the standard module of OPTiM Cloud IoT OS, the Medicaroid support center is able to precisely monitor activities in the operating room.

3. Reproduction of robotic movements
   Utilizing Digital Twin, another standard module of OPTiM Cloud IoT OS, the operating status of hinotori™ is reproduced three-dimensionally.
   This enables the Medicaroid support center to visually grasp manipulations by the surgeon, in addition to robotic movements during the surgery.
Medicaroid will further employ the features of OPTiM Cloud IoT OS to extend the functions of MINS, such as AI analysis and simulation, thereby strengthening the digital strategies of hinotori™ in collaboration with stakeholders in the healthcare industry.

[About MINS]

MINS is an open platform that collects, analyzes and provides, on a real-time basis, the information of sensors installed in hinotori™, endoscopic video, and the video of the entire operating room.

It is possible to establish a database from information collected through MINS, and add new services such as in-house or third-party AI analysis and simulation.
[Utilizing OPTiM Cloud IoT OS for MINS]

Medicaroid has announced its decision to utilize a lineup of diversified functions, including an open platform-oriented basic function group (IDM / IAM, DMS, BMS)*1 provided by OPTiM Cloud IoT OS and basic / general-purpose modules for providing AI / IoT services as the foundation of the Medicaroid Intelligent Network System (MINS).

*1 Basic function group (IDM / IAM, DMS, BMS)

IDM/IAM: Identity Management/Identity and Access Management
These functions manage users and groups (e.g. organizations, sites, etc.) with dedicated IDs, and appropriately authenticate and authorize access to data. Incorporating multi-factor authentication as a standard feature, these functions allow secure and flexible ID design and access control.

DMS: Device Management Service
This is a general-purpose device management function that provides not only secure and easy connection between devices and clouds but also remote connection of devices and console functions. It standardizes data format to enable centralized management of the status and data of various IoT devices.

BMS: Billing Management Service
This is a basic function that manages all billing operations such as application sales to users, API sales, and license management. It allows users to freely choose and purchase applications, AI engines and other products developed by any vendor.

【OPTiM】
Company name: OPTiM Corporation
OPTiM TOKYO Shiodome Building 21F, 1-2-20 Kaigan, Minato-ku, Tokyo, Japan (TOKYO Head Office)
OPTiM SAGA OPTiM Headquarters Bldg., 1 Honjomachi, Saga-shi, Saga, Japan (SAGA Office)
OPTiM KOBE Nihonseimei-Sannomiyaekimae Bldg. 11F, 7-1-1 Onoedori, Chuo-ku, Kobe-shi, Hyogo, Japan
Founded: June 8, 2000
Capital: 443 million yen (as of April 1, 2019)
Main Business: License sales and maintenance support service (Optimal Business)
(IoT platform service, remote management service, support services, other services)

【Medicaroid】
Company name: Medicaroid Corporation
Address: International Medical Device Alliance 6th floor, 1-6-5 Minatojima Minami-machi, Chuo-ku, Kobe, Japan
Founded: August 29, 2013
Capital: 7,960 million yen (as of December 31, 2019)
Main Business: Marketing, development, design, manufacturing, sales, after-sales servicing of medical robots

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