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OLYMPUS Technology Strategy for ICT-AI Platform

OLYMPUS ICT-AI Platform Strategy
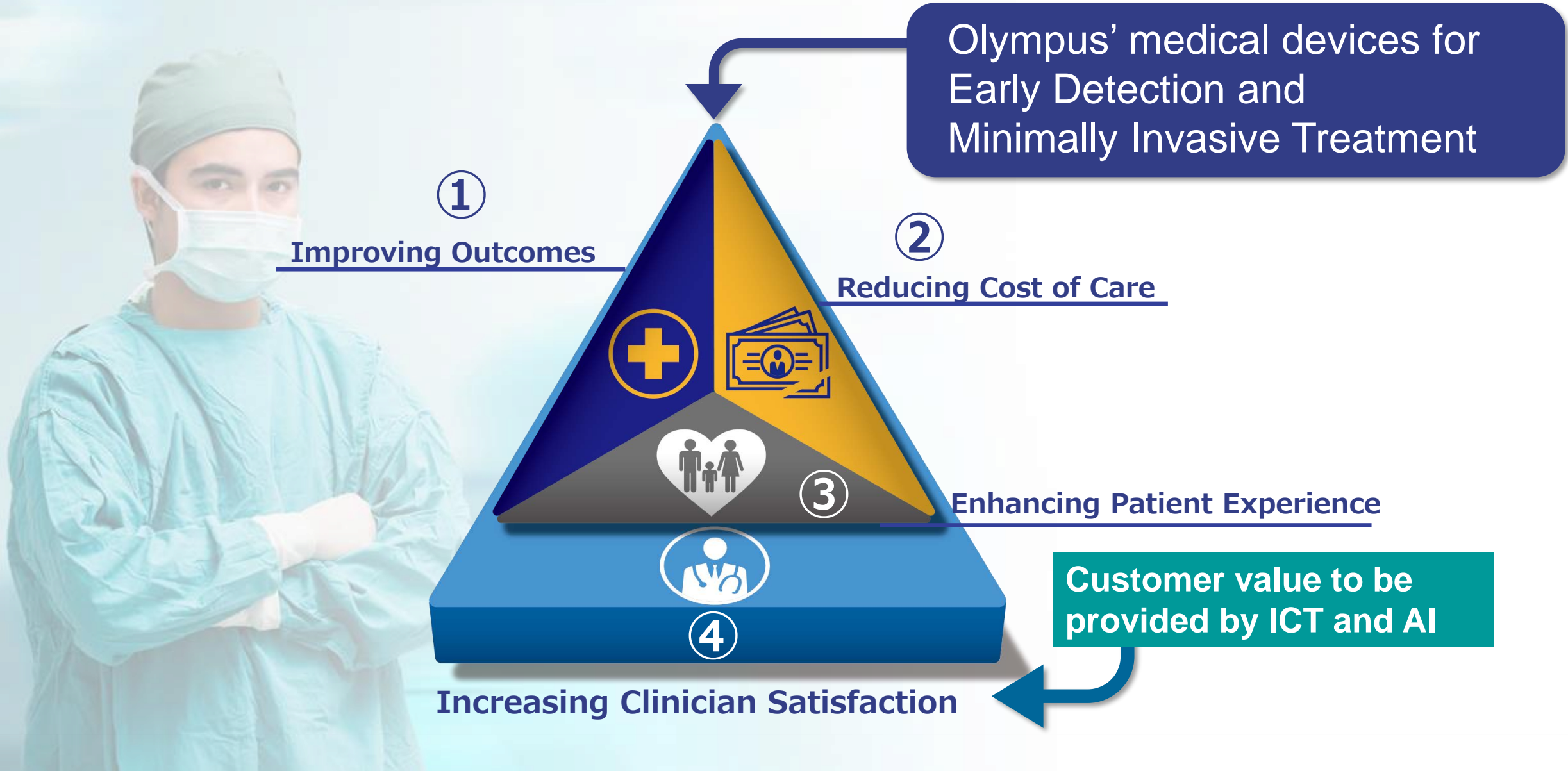
March 13th, 2019

Mitsutoshi Aizawa

Deputy General Manager

ICT Solution and Applications Department

Customer Value by ICT/AI utilization

Olympus' medical devices for Early Detection and Minimally Invasive Treatment

① Improving Outcomes

② Reducing Cost of Care

③ Enhancing Patient Experience

④ Increasing Clinician Satisfaction

Customer value to be provided by ICT and AI

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Negative spiral

Proportion of hospitals in the red

Proportion of doctors who worked overtime over 960 hours per year

60%

51.8%

Chronic shortage of personnel

Medical man-hours enlargement

Increase overtime hours

Increased per person workload

Source:
・e-stat: The 21st Medical Economic Survey (Survey of medical institutions)
・MHLW The 19th Study Group documentation for the doctor's work style reform
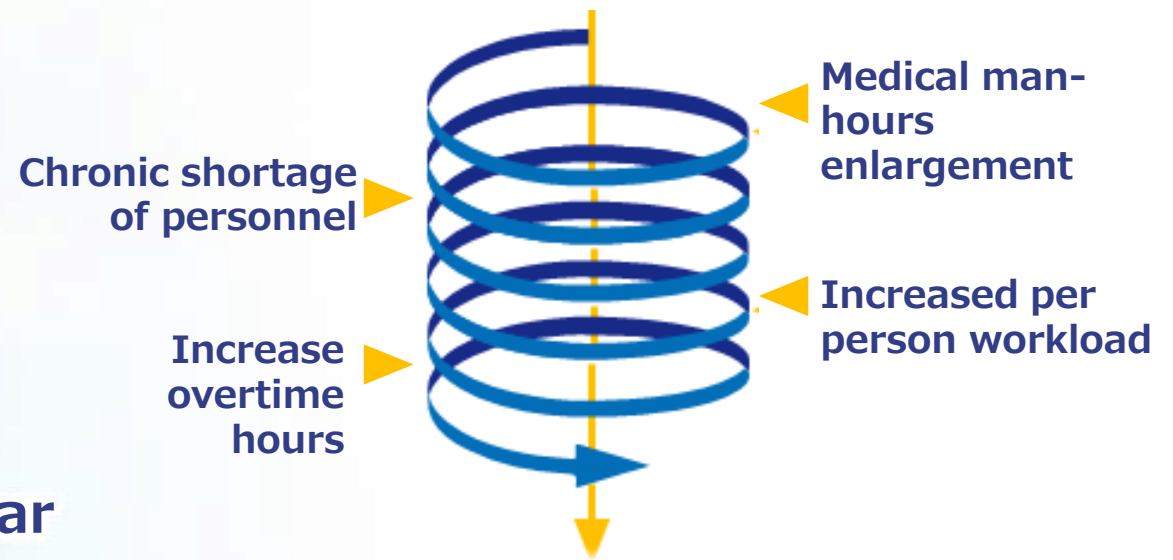
Improvement of HCP working environment is necessary to sustain the medical care quality for the future

Endoscopic Inspection Workflow

Inspection Preparation

Insertion

Diagnosis

Therapy

Reporting

Endoscope Reprocessing

Enhancing Workflow Efficiency with ICT and AI

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ICT reduces stress/loads in preparation

Inspection Preparation

Endoscope Reprocessing

ICT improves efficiency & quality in cleaning & disinfection

Insertion

AI supports insertion through navigation＊

Reporting

ICT realizes semi-automated reporting

Diagnosis

AI assists diagnosis by providing more information＊

ICT supports efficient & effective treatment

Therapy

＊Technology not yet approved under the Act on Pharmaceuticals and Medical Devices

Solutions for Improving Customer Workflows

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Reduce downtime with monitoring of devices' operation status

Support appropriate use of and optimal investment in devices through analysis of device usage data

Effective use of devices and optimal investment

Utilize AI to support Detection and diagnosis*

Utilize ICT to enable more efficient device use and maintenance

Enhance workflow efficiency by semi-automating reports
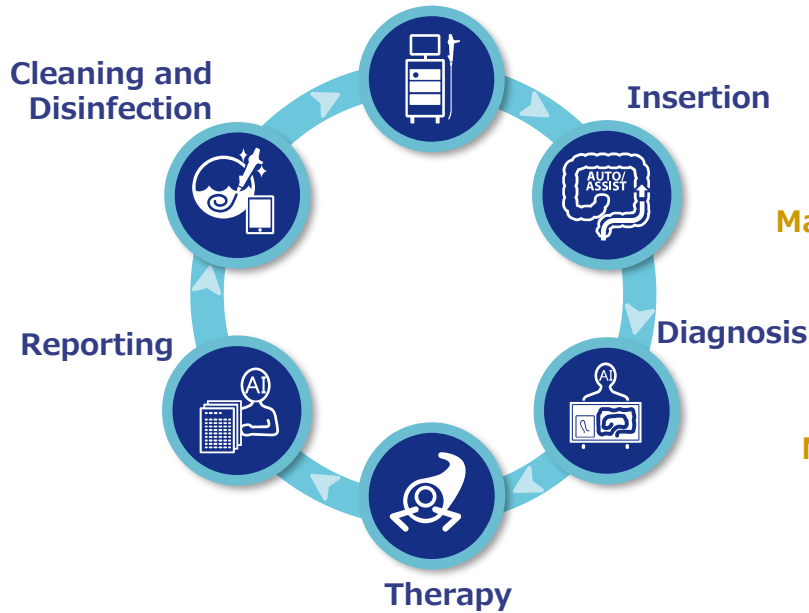
Reducing workload on healthcare professionals

*Technology not yet approved under the Act on Pharmaceuticals and Medical Devices

Endoscopy Intelligent System

OLYMPUS AI Server in Surgery

Intelligent Sensing for Inspection

Inspection Preparation
Cleaning and Disinfection
Insertion
Reporting
Diagnosis
Therapy

Advanced Imaging
Active Energy Control
Advanced Manipulation
AI
1-1 : ABCD
2 : EFGH
2-1 : JKLM
2 : OPQR
3 : • • •
Multi-modal Inspection Data Analysis
Image Navigation
AI Based SI & Protocol Tracking
Voice Control
AR/VR
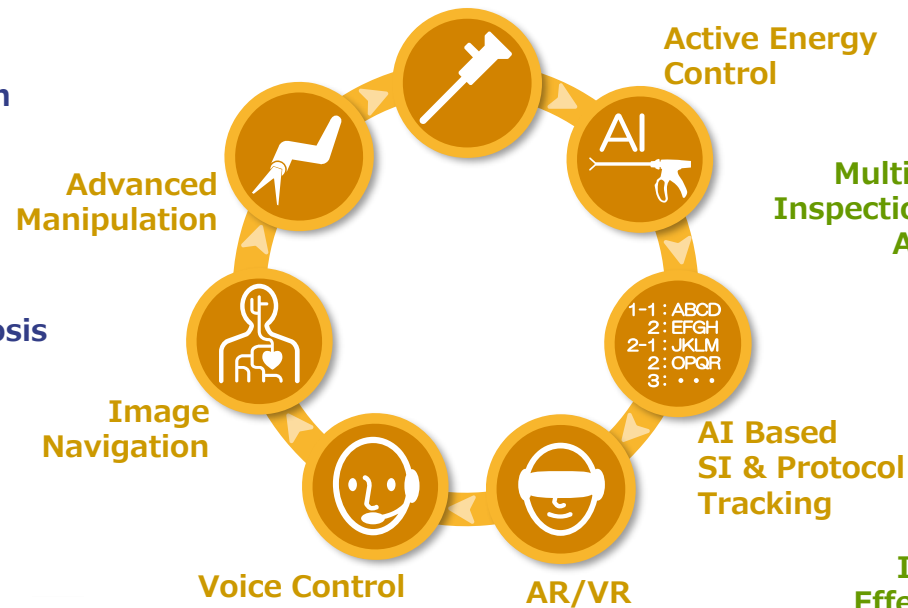
Digital Imaging Sensing
Support for Human Inspection
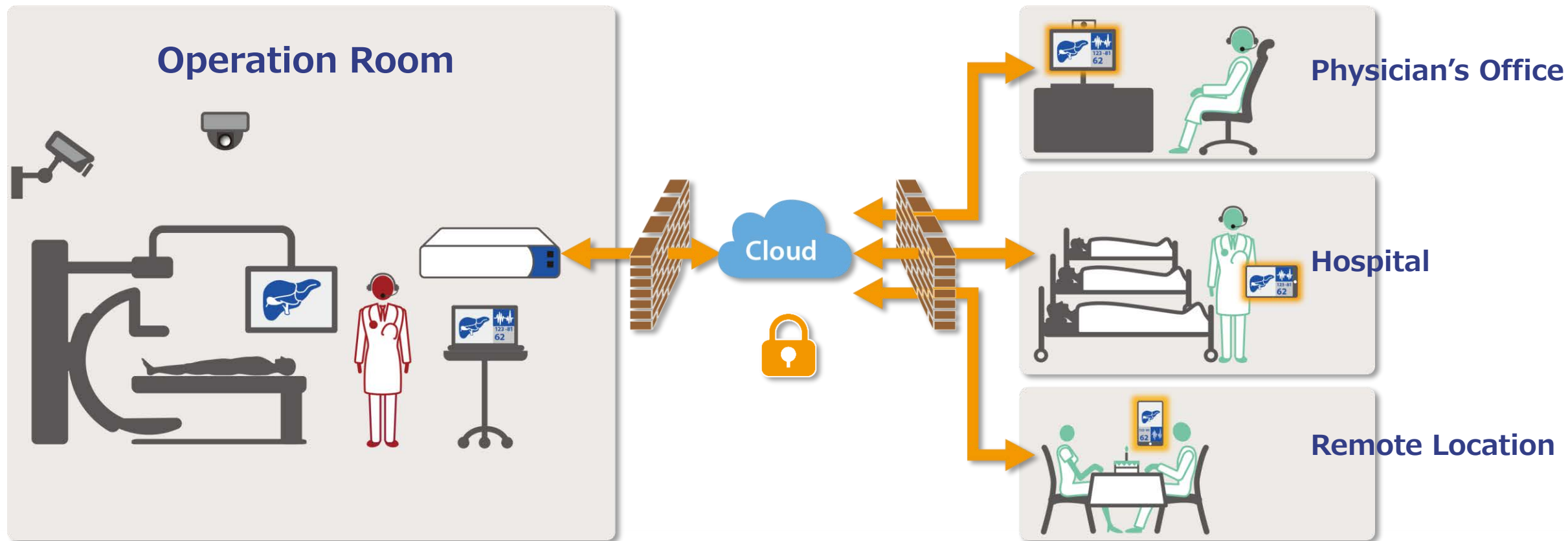Evidence-based Machine Inspection
Inspection Evidence and Effectiveness Data Analysis

MedPresence: Remote clinical-support solution (Rolled out in U.S.)

Operation Room

Cloud

Physician's Office

Hospital

Remote Location

ICT-AI Platform – Industrial

Expand Olympus Scientific Cloud and build platform for inter-device links, data collection, and AI services

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Physical Space

Cyber Space

Industrial locations

Cloud — Microsoft Azure

Industrial Inspection Devices

Industrial ICT Platform

Solutions

Device Data | Communication Gateway | Cloud Gateway | Storage

·NDT Device
·ANI Device
·RVI Device
·Industrial Microscope

Device Log
Error Log
Movie/Image
Firmware

Network Manager

IoT Gateway

Device log
Error log
Video
Etc.

Uploaded Data

Customer Data
Latest Firmware

Internal Data

Remote monitoring /maintenance
Predictive Maintenance
Fleet Management
AI services (inspection support)
Reporting

ICT-AI Platform: Consolidate Current Business Model
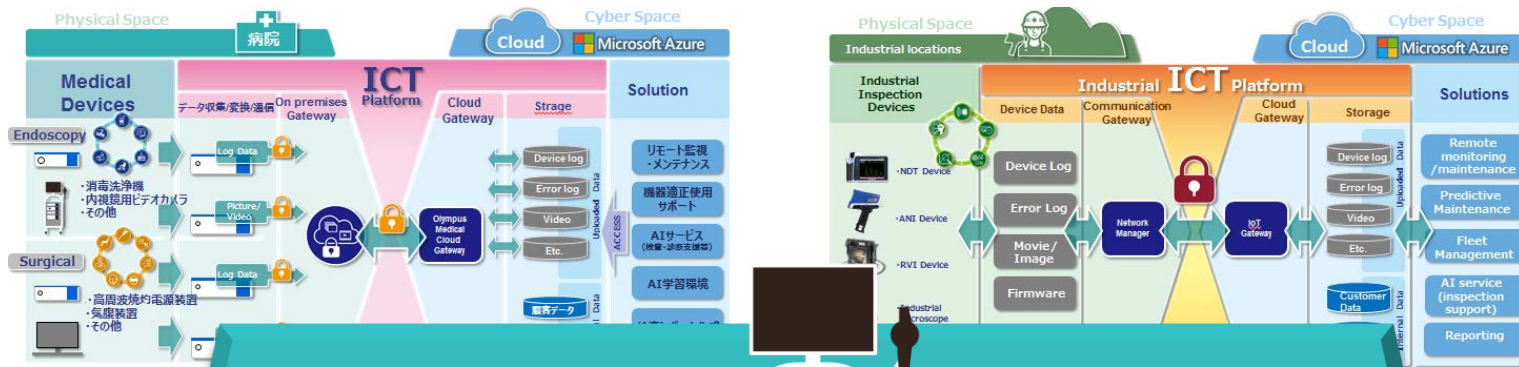
AI services
(examination support, etc.)

Remote monitoring / maintenance

Support proper use of devices

Sales contracts

Maintenance contracts

Predictive maintenance

Support creation of reports

Current business model

Optimal investment in devices

Value added Solution with ICT-AI
Customer Workflow improvement

ICT-AI Platform: Consolidate Development Partnerships

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Accelerate the solution development with customers and technology partners to improve the customer value, utilizing Olympus ICT-AI Platform

OLYMPUS
ICT
Platform

Specialists in

Hospital /Healthcare,

Industry,

Life Science,

and Research
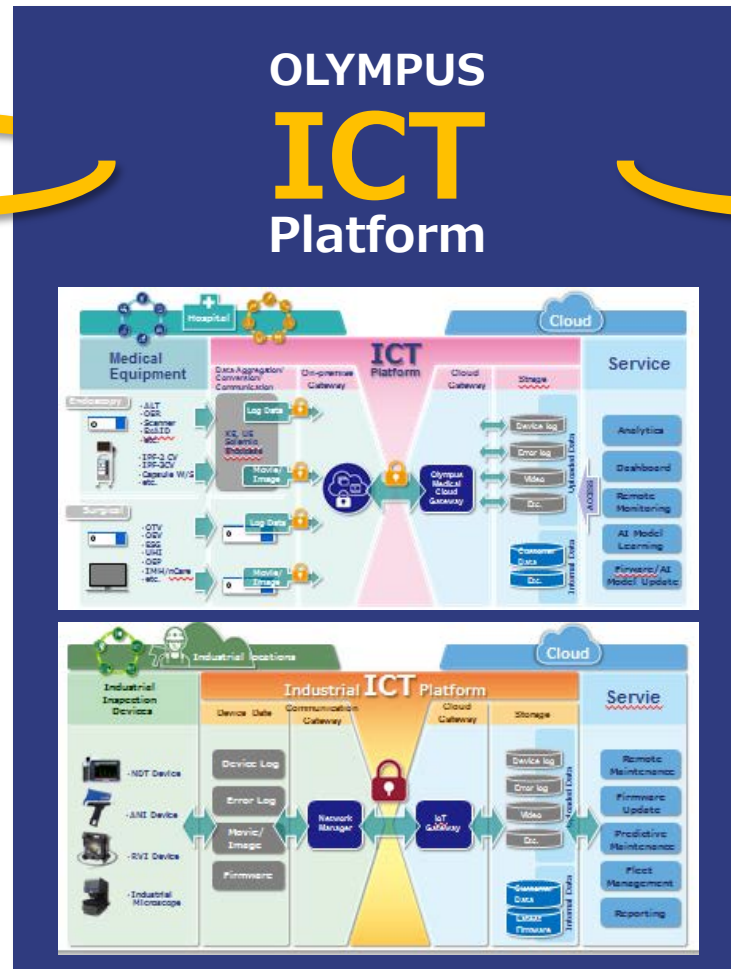
AI/Solution Developers

etc.