# Product Catalogue for Solutions to Global Health Challenges

**OCTOBER**, 2024

# Publisher: Ministry of Health, Labour and Welfare, Japan



MINISTRY Of Health, Labour and Welfare of Japan



# Disclaimer

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  - ARKRAY, Inc: Compact Urine Analyzer PocketChem UA PU-4010
  - · ARKRAY, Inc: Simplified blood analyzer The Lab 004
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  - MIZUHO Corporation: Electric Hydraulic Operating Table MOT-5602BW
  - NEC Corporation: E-voucher management system
  - Toyota Tsusho Corporation: Toyota Land Cruiser RVTV, a cold storage vehicle dedicated to vaccine transportation

# 1. Prevention

# Eiken Chemical Co., ltd.

1. Name of product:

# Fecal occult blood test analyzer "OC-SENSOR PLEDIA"

### 2. Image:



### 3. Primary Function: Prevention

### 4. Category: Medical equipment

#### 5. Sales information:

Price	4,000,000 JPY
Year of launch	2014
Unit of sale	1 unit
Place of sale	Japan, USA, UK, Germany, France, Spain, Belgium, Australia, New Zealand, Korea, Taiwan, Singapore, Thailand, Malaysia, Canada, etc. (Over 45 countries in total)
Company name	Eiken Chemical Co., ltd.
Model number	MV5H00

#### 6. Targeted health issues and product overview:



#### Photo 1:



#### Photo 2:

#### Health Challenges:

Due to the aging population and dietary habits, "colorectal cancer" has become a major cancer, and its control is a challenge in many countries. Further, national-level colorectal cancer screening using automated analyzers is currently not available in low- and middle-income countries. There is a need to establish a screening system that leads to early detection and early treatment of colorectal cancer.

#### **Product Overview:**

Early detection of colorectal cancer is expected through periodic "fecal occult blood test," which tests for minute amounts of blood adhering to stool from colorectal cancer cells. The system has been adopted in many countries around the world because it enables efficient colorectal cancer screening by quantifying the measurement results for identifying people at high risk of colorectal cancer.

#### Usage:

Have the person to be tested collect stool samples using a special stool collection container (Photo 1). The stool container is submitted to a medical institution that has installed our measuring device. After placing the collected stool container on the dedicated rack (Photo 2), the container is placed on the measuring device and measurement begins.

						-	1.00	04		-		
Accessories and required								Others	OC BING 3		-	
							-	End ring	OC-RING-2	1	For 10 L t	
consumables			1		1			Cap spacer		1	-	
	Name	I non-	Model	Number	Remark			Cap spacer		1	For 5 L ta	
	Body	Fully automated fecal occult blood analyzer	OC-320	1				Cap spacer	DOD CO DOT	1	For buffer	
		(movable and discrete clinical						Sample cups	DSP-SC-20B	I bag	Consumal	ble supplies
		chemistry automatic analysis						Power cable	CP-114 or K-CP-200	1		
		system) OC-SENSOR PLEDIA						Barcode labels for rack	or K-CP-200	3 sheets	s "001-010"	" "011-020,"
	Accessories	(1) Software package						CONTRACTOR DEVELOPMENT		- and b	"091-099"	
	Accessories	Software program		1	Preinstalled in hard disk			Measurement cells	LX-CELL-1B5	1 box		ble supplies
		(2) Racks			Tremstance in nare east			Thermal roll paper	P-58-40	1 roll	Consumal	ble supplies
		Sample racks	OC-RK-41A	2 boxes	10 units/box	Papers	•	Operation Manual	NN1-1384	1		
		STD/QC racks	OC-RK-42A	1	2 units/box			Certificate of compliance		1		
		Retest rack	OC-RK-33C	1	1 unit/box			Tank label		1	Affixed to	tank
		Dilute test rack	OC-RK-34C	- i	1 unit/box		-				-	
		(3) Tanks/bottles										
		· Tank	NBU-4033-W1	1	10 L tank							
		(for purified water)	1000 1000		w/ zero-level sensor	1000					San san sa	2010
		· Tank	NBU-4033-W2	1	5 L tank	Product co	ode	Product name	Stor	age	Shelf Life	Contents
		(for wash solution)			w/ zero-level sensor							
		Tank	NBU-4033-W3	1	10 L tank	V-PZ01		OC-SENSOR FIT Latex Reage	ent 2-10	rc T	1 y ear	5×15mL
		(for drain)			w/ maximum-level sensor						-	
		Tank	NBU-4033-W4	1	5 L tank	V-PZ03		OC-SENSOR FIT Buffer	2-10	°C	1 y ear	1×500mL
		(for wash solution preparation)				11 01 120		00 FIT Oslikadar			4	du Caul
		Auxiliary tank	5BL	1	5 L tank	V-PH52		OC-FIT Calibrator	2-8	· · ·	1 y ear	1×3mL
		Empty bottle (for buffer)	PB-11	1		V-PH53		OC-FIT Control LV1	2-8	°C	1 y ear	2×5mL
		Beaker	PP200ML	1						-		
		Tank nozzles		2	Attached to tank (for wash	V-PH54		OC-FIT Control LV2	2-8		1 y ear	2×5mL
					solution preparation) and	V-PH59		OC-FIT Control LV3	2-8	°C	1 y ear	2×5mL
					auxiliary tank	VCPZ25		OC-Auto Sampling Bottle 3	1-30	1°C	18 months	100 bottles
						VGF225				, <u> </u>	To Hondia	100 Dottles
						VCPZ26		OC-Auto Sampling Bottle 3 with	hout 1-30	rc I	18 months	100 bottles
								barcode				
Warranty period	1 year											
Liteune	5 years											
Facility requirements	Power supply: AC100 V±10 V 50/60 Hz, 500 VA Temperature: 15 to 30 °C, Humidity: 20 to 80 % (no condensation)											
Maintenance (*for medical equipment)	Overseas:	riodic inspection Periodic inspect s where no distribute	ion and	mair	ntenance are	availab	le a		butors	or ol	ur cor	npany.
Regulatory approval status	Japan PMDA approval (2014), Australia TGA (2015), Thailand FDA (2015), Malaysia MDA (2018)											
International public procurement performance	N/A											

### 8. Contact and other information:

Contact address.	Eiken Chemical Co., ltd. Sales Promotion Division 1, Section 1, Kiyokazu Kanamoto <u>Kiyokazu_kanemoto@eiken.co.jp</u> , +81-3-5846-3281
Website	https://www.eiken.co.jp/en/products/fit/pledia/

### Case studies in low- and middle-income countries



#### Thailand:

Four units were procured under the JICA "Project for Promotion of Mass Colorectal Cancer Screening in Thailand" project. Our devices have been installed in regional care hospitals in Thailand, mainly in the capital city of Bangkok. Medical checkups for residents are conducted in some areas, and stool collection containers are distributed by medical institutions to residents who wish to undergo the checkups. After the residents themselves collect the stool samples, the containers are collected and analyzed at the medical institution (in some areas, health volunteers support the collection). If it tests positive, there is a possibility that the person has colorectal cancer, and a thorough examination using an endoscope is conducted.

Especially in areas where there is a shortage of endoscopes and doctors, the introduction of fecal occult blood test is expected to help identify people at high risk of colorectal cancer, thereby enabling early detection and early treatment.

# **Fujifilm Corporation**

1. Name of product:

# AMULET Innovality for digital mammography

2. Image:



Overall view of the Fuji's Amulet mammograph

3. Primary Function: Digital mammography system that produces high-resolution images with low X-ray dose, Dual-mode

### Tomosynthesis, and comfort functions for Prevention and Diagnostics.

- 4. Category: Medical equipment
- 5. Sales information:

Price	USD 300,000/unit
Year of launch	2013
Unit of sale	1
Place of sale	Australia, Japan, EU, USA, China, Canada, South Korea, Taiwan, Hong Kong, Vietnam, Thailand, Singapore, Malaysia, Philippines, Indonesia, Myanmar, India, Pakistan, Sri Lanka, Bangladesh, New Zealand, Nepal, Iran, Iraq, Bahrain, Saudi Arabia, Kuwait, Qatar, Oman, Israel, Jordan, Lebanon, UAE, Yemen, Azerbaijan, Turkey, Palestine, Russia, Serbia, Ukraine, Bosnia and Herzegovina, Albania, Montenegro, Kazakhstan, Georgia, Turkmenistan, Uzbekistan, Kosovo, Mexico, Guatemala, Honduras, El Salvador, Nicaragua, Costa Rica, Panama, Dominican Republic, Caribbean countries, Colombia, Ecuador, Peru, Bolivia, Chile, Brazil, Paraguay, Uruguay, Argentina, Morocco, Algeria, Tunisia, Libya, Egypt, Senegal, Ivory Coast, Ghana, Nigeria, Ethiopia, Madagascar, Mauritius, South Africa, Swaziland, Zambia, Uganda, Botswana, Zimbabwe
Company name	Fujifilm Corporation
Model number	Model: FDR-3500DRLH

### 6. Targeted health issues and product overview:

High-precision mammography with a minimum pixel size of 50 µm provides an overall view of calcification and mammary glands to prevent and diagnose breast cancer.

There are two modes of Tomosynthesis functionality for a wide range of clinical applications.

The "Nagomune" function, which reduces pressure on the breast to the extent that the breast thickness does not change after the breast is compressed to reduce pain during the examination, can contribute to improving breast cancer screening rates in emerging countries.

Accessories and required consumables	Mammography Console Console for radiography Workstation for reading (including monitor)
Warranty period	Manufacturer's Warranty: 1-year Extended Warranty Plan available
Lifetime	7 years
Facility requirements	Continuous power supply (AC power, 200V 208/220/230/240V, 1200W), temperature (in use) 20- 30°C, relative humidity 30-75%.
Maintenance (*for medical equipment)	For Middle Eastern and African countries maintenance support is available from local agents in each country, with on-site maintenance support from regional headquarters in Dubai and South Africa as needed. For Southeast Asian countries maintenance services are available from local subsidiaries or local agents in each country, and support is available from the regional headquarters in Singapore as needed. For Oceania Island countries maintenance support is available from our regional headquarters in Australia. For Latin American countries maintenance support is available from local agents in each country and, if necessary, from the regional headquarters in the U.S.A.
Regulatory approval status	CE approval, PMDA approval, US FDA approval
International public procurement performance	Fujifilm has experience in supplying through Japanese ODA projects.

### 8. Contact and other information:

Contact address.	Takuma Otsuka (Mr.) takuma.otsuka@fujifilm.com +81-90-2746-7605 Tomoyasu Nakakubo (Mr.) tomoyasu.nakakubo@fujifilm.com +81-80-2190-6979
Website	https://www.fujifilm.com/sg/en/healthcare/x-ray/mammography/amulet-innovality

### Case studies in low- and middle-income countries:

5,500 units have been sold worldwide. In emerging markets such as Middle East Africa, Central Asia, Southeast Asia, Oceania, and Central and South America, Fujifilm was able to introduce products through local subsidiaries and distributors.

# Melody International Ltd.

# 1. Name of product:

# Mobile Fetal Monitor "iCTG"

### 2. Image:



### 3. Primary Function: Monitoring

4. Category: Medical Device

### 5. Sales information:

o. Sates mornation.	
Price	4,500 USD
Year of launch	2019
Unit of sale	12~
Place of sale	Japan, Thailand, Bhutan, Indonesia, Vietnam, Philippines
Company name	Melody International Ltd.
Model number	MI1001A, MI10002

### 6. Targeted health issues and product overview:

The iCTG fetal monitoring device is used for diagnosis to provide appropriate care for pregnant women and their unborn babies. The iCTG displays fetal heart rate and uterine contractions over a period of 20 minutes to several hours in graph form, and while it has the same performance as conventional fetal monitoring devices, it is ultra-compact, mobile and completely wireless.

This device makes it possible to check the health of pregnant women and their unborn babies, and to transport them to secondary or tertiary hospitals at an early stage, even in areas where there is a shortage of doctors or where access to medical care is poor.

Accessories and required consumables	Accessories 1 original bag (20 USD), 1 set of 2 belts (4 USD), 1 control terminal (1000 USD) 1 charger for sensors (52 USD), 1 charger for control terminals (36 USD) 1 tube of 200ml ultrasound gel (local price) Options Fetal movement marker (6 USD)
Warranty period	1 year
Lifetime	5 years
Facility requirements	N/A
Maintenance (*for medical equipment)	Local sales agents in Thailand, Indonesia, Vietnam and the Philippines can handle maintenance. All other countries are handled in Japan. All repairs are also handled in Japan.
Regulatory approval status	PMDA certification (2018), Thai FDA certification (2021), Kenya PPB certification (2022), Philippines CMDN certification (2022), Indonesia MoH certification (2022), Vietnam MoH certification (2024)
International public procurement performance	UNDP to introduce 46 units in Bhutan (2020)

# 8. Contact and other information:

Contact address.	e-support@melody.international +81-87-813-7362	
Website	https://www.melodyi.net/	

Case studies in low- and middle-income countries

It has been introduced in Bhutan (82 units), Thailand (37 units), Tanzania (14 units), Micronesia (12 units), and Cambodia (9 units) as part of projects run by JICA, AMED, and other organizations.

# **NEC Corporation**

# 1. Name of product:

# Maternal and Child Nutrition/Diabetes Checkup Support Application.

### 2. Image:

	Instructions O	Executive Dashboard					Spatial Distribution	(in Principal Arristal)		
0		People Surveyed	Healthy	Health Risk	Jazba Score	CBAC Score	Service and a local group of the service of the ser	Operation Service (24)		
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				Line Line Line Line Line Line Line Line		The second secon	Image: Strategy of the strate			

#### Fig A: Application, B: Dashboard

### 3. Primary Function: Prevention

### 4. Category: e-Health

### 5. Sales information:

Price	Depends on individual quotation.
Year of launch	2020
Unit of sale	N∕A
Place of sale	India, Ghana
Company name	NEC Corporation
Model number	N∕A

### 6. Targeted health issues and product overview:

If a patient has not undergone health checkups or has not received sufficient health checkups/guidance from staff at health centres during pregnancy or after childbirth, this application can be used by staff at health centres or during home-visit health checkups to support appropriate and efficient health checkups and subsequent guidance on lifestyle improvement. By entering health data such as weight, height, BMI, and behavioural habits such as meal frequency and sleep duration into the application, appropriate subsequent assessments are provided.

By providing appropriate guidance, health centre staff can contribute to the early detection of diabetics including potential patients and/or mothers, and children with nutritional issues, as well as to preventive medical care and lifestyle change.

In addition, the system provides a dashboard for statistical analysis of the collected data and contributes to data-driven decisionmaking by the government by making the data visible.

The contents of the application and dashboard can be changed according to the disease and target.

Accessories and required consumables	Android tablet (for application use), PC (to display dashboard), Tablet/PC charger
Warranty period	Individual consultation
Lifetime	Individual consultation
Facility requirements	N/A
Maintenance (*for medical equipment)	N/A
Regulatory approval status	Not required
International public procurement performance	We are collaborating with WFP on a project in Ghana.

### 8. Contact and other information:

Contact address.	NEC Corporation Global Relations Department / Marie Mazuka <u>m-mazuka@nec.com</u> , +81-80-8435-7531
Website	Press Releases: https://jpn.nec.com/press/202205/20220527_01.html (Ghana) https://jpn.nec.com/press/202002/20200209_01.html (India)
	Reference Articles: https://jpn.nec.com/profile/sdgs/innovators/project/article10.html (Ghana) https://wisdom.nec.com/ja/feature/healthcare/2020073101/index.html (India)

### Case studies in low- and middle-income countries

#### Case 1: India/Diabetes



#### Case 2: Ghana/Maternal and Child Nutrition



**Case1.** The application is being used in Bihar, India, as a diabetes screening support application, and Proof of Concept(PoC) has been conducted since February 2020.

Bihar health center staff (ASHA) has visited approximately 5,000 households and conducted free health checkups. NEC contributes to preventive healthcare by measuring height, weight, waist, and BMI, and conducting to support health checkup about lifestyle habits, and based on the data, finding pre-diabetes, providing advice on how to improve lifestyle habits, arranging visits to nurses, and arranging for additional measurements of blood pressure and blood sugar. Providing tablets and measuring devices, NEC developed an application that displays health advice on the screen based on input data. In addition, the health checkup data collected by the tablets was integrated into a server, and from the dashboard that analyzed and visualized the data, the government was able to extract insights on what kind of policy decisions should be made.

**Case2.** Utilized in Ghana/Ashanti Region as an application to support mother-child nutritional checkup. Contract signed in 2022, operation PoC started in September 2023.

2. Diagnosis/Evaluation

2.1 In-Vitro Diagnostic Product (Testing equipment, Diagnostic kits)

# CMIC Group

# 1. Name of product:

# Renischem® Urinary L-FABP POC Kit – in-vitro diagnosis for renal diseases

### 2. Image:



Fig: Overall system consisted of IVD products "POC kit" and medical devices "POC test reader"

3. Primary Function: Diagnosis (e.g., triage of acute kidney injury severity through urinalysis, extensive screening for chronic

### kidney disease)

4. Category: In vitro diagnostic products (POC Kit), Medical devices (POC Reader)

### 5. Sales information:

Price	POC kit: USD 10 $\sim$ 20/test (Reference: Japanese reimbursement price USD 20) POC reader: USD 2000 $\sim$ 3000
Year of launch	POC kit: 2016 POC reader: 2023
Unit of sale	POC kit: 20 test/box POC reader: 1 unit
Place of sale	POC kit: Japan, Philippines, Italy POC reader: Taiwan
Company name	POC kit: CMIC HOLDINGS Co., Ltd. (CHD) POC reader: Timewell Medical Co., Ltd. (CHD Partner)
Model number	POC kit: (Certification No.) 228ADEZX00067000 POC reader: (Notification No.) 13B3X10354000001

### 6. Targeted health issues and product overview:

Early detection of kidney disease, which is increasing in emerging and developing countries, is an important means of avoiding dialysis. The L-FABP kit, a simple urine test developed in Japan, can accurately identify the risk of severe renal disease and is included in national and international guidelines. In regions with inadequate access to medical care, its usefulness has been demonstrated in global outreach studies conducted by the Japanese Society of Nephrology and other organizations. This product is a Point of Care (POC)-type kit for screening that determines the test line shading in three semi-quantitative levels (-, +, ++) 15 minutes after a 0.1mL drop of urine sample. It is also applicable to quantitative measurement of that test cassette with a handy reader.

Accessories and required consumables	POC kit: The test cassette, pre-treatment tube, syringe, and desiccant are sealed inside an aluminium pouch for one test. A urine collection cup is provided as a consumable. POC reader: Reader body, calibration cassettes (Calibration devices), AC adapter. Consumables are not required, but a timer is useful for accurate measurement of test intervals when multiple samples are tested continuously.
Warranty period	POC kit: 1.5 year POC reader: 1.5 year
Lifetime	POC kit: 1.5 year POC reader: 3 years
Facility requirements	POC kit: No specific requirements (room temperature storage) POC reader: Continuous power supply (AC power, 120-240V, 50/60H, 0.45-0.2A, battery lasts 2 hours, 4-hour charge), temperature -10 to 50°C, relative humidity 80% max.
Maintenance (*for medical equipment)	POC reader: Replace only the calibration cassette every 1.5 years
Regulatory approval status	POC kit: PMDA approval (2016), CE mark acquisition (2016) POC reader: PMDA notification (2023)
International public procurement performance	Not yet procured

### 8. Contact and other information:

Contact address.	Contact: Takeshi Sugaya, Ph.D Email : <u>takeshi-sugaya@cmic.co.jp</u> Tel:+81-3-76779-8017	
Website	https://fabp.jp/eng/	

#### Case studies in low- and middle-income countries



Picture: Examples of Urine L-FABP POC Kit Applications

Philippine: Purchase agreement (2017) with local distributor (ULIVaccines Inc., UNILAB group). 1000tests have been purchased annually.

As a case study in a low- and middle-income country, it was shown that a simple urine L-FABP test at the time of presentation could reduce the hospitalization burden to triage the risk of COVID-19 severity in four Manila hospitals<sup>1</sup>). It has also been used for research purposes in Bangladesh<sup>2</sup>, Thailand, and Vietnam to screen for drug-induced kidney injury and early renal disease by urinalysis (see attached picture). Urine L-FABP is relatively stable and can be used for health screening in areas without refrigeration facilities.

1) Chua A., et al., PHILIPPINE JOURNAL OF INTERNAL MEDICINE 60(4), 2022 2) Noiri E and T.K. Jha T.K., "Kala Azar in South Asia", Springer; 2nd ed., 2016

# Eiken Chemical Co., ltd.

# 1. Name of product:

# Loopamp<sup>™</sup> MTBC Detection Kit

# Loopamp<sup>™</sup> PURE DNA Extraction Kit

### 2. Image:



Fig A: MTBC Detection Kit, B: PURE DNA Extraction Kit

### 3. Primary Function: Diagnosis

### 4. Category: In vitro diagnostic Reagent

### 5. Sales information:

Price	REAGENTS 106634 Loopamp MTBC Detection Kit 2 x 48 tests USD 219.00 106635 Loopamp PURE DNA Extraction Kit 90 tests USD 275.00
	CONSUMABLES 106643 Pipette-60 set for TB-LAMP1 USD 42.00
Year of launch	2017
Unit of sale	1 kit
Place of sale	Japan, China, Thailand, Cameroon, Zambia, Nigeria, Kenya, Uganda, India, Philippines, Vietnam
Company name	Japan, China, Thailand: Eiken Chemical Co., ltd. Others: HUMAN Gasellschaft fur Biochemica und Diagnostica mbH
Model number	Japan: LMP521(Mycobacterium tuberculosis), LMP802(PURE) China: VMP521(MTBC), VMP802(PURE) Others: 972000(MTBC), 970000(PURE)

### 6. Targeted health issues and product overview:

Tuberculosis (TB) is one of the three major infectious diseases in the world, and many low and middle-income countries are reported by WHO as high-burden countries. In these countries, advanced diagnostic techniques are not widely used, and there are issues such as the spread of infection due to delays in treatment caused by missed infected patients. To solve these issues, PURE-TB-LAMP was developed as an in vitro diagnostic product (molecule diagnostics test) that enables simple and rapid detection of Mycobacterium Tuberculosis complex from sputum, In 2016, PURE-TB-LAMP was recommended by WHO as an alternative to the smear microscopy test that can be used even in medically underpopulated areas, and is utilized as a high-performance diagnostic agent in the fight against TB in high TB burden countries.

Accessories and required consumables	1. Measurement (Amplification) A)Incubator (TB only): Eiken Chemical(JAPAN): LF160(680,000 JPY) HUMAN(Others): HumaLoopT(USD 2,695)
	B)Real-time turbidimeter (for both TB and malaria): Eiken Chemical(JAPAN): LoopampEXIA (2,000,000 JPY) HUMAN(Others): HumaTurb C+A (USD 17,490)
	2. Specimen processing equipment (extraction) : Eiken Chemical (JAPAN): PureLAMP heater (317,000 JPY) HUMAN(Others): HumaHeat (USD 1,056)
	3. Consumables : Eiken Chemical (JAPAN): Pipette-60 set (12,000 JPY) HUMAN(Others): Pipette-60 set (USD 42.0)
Warranty period	1 year
Lifetime	Reagent: 14 months
Facility requirements	The equipment must be available for inspection. Equipment Installation Conditions Operating temperature Temperature 5°C-40°C Humidity 30-80%RH Storage Environment Temperature -5°C-50°C Humidity 30-80%RH Power supply voltage AC100V-240V±10% 300VA power supply available
Maintenance (*for medical equipment)	Japan: Eiken Chemical will ask the manufacturer to provide support. China and other countries: Maintenance service is available through local distributors or HUMAN Gesellschaft für Biochemica und Diagnostica mbH (https://www.human.de/).
Regulatory approval status	PMDA Manufacturing Recognition (2011), CE-mark IVDR Recognition (2017) NMPA/China China FDA Recognition (2014)
International public procurement performance	Funding from Global Fund, World Bank (Cameroon, Zambia, Nigeria, Vietnam, etc.)

# 8. Contact and other information:

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Website	https://www.eiken.co.jp/en/

#### Case studies in low- and middle-income countries



Cameroon: Over 30 TB diagnostic laboratories have been introduced and routine testing has been initiated. Zambia: 29 facilities have been introduced through inclusion in the national strategic plan and guidelines. Nigeria: Introduced to 12 facilities, with more than 100,000 tests to be performed by 2022.

The test flow is as follows: specimens (sputum) collected at each medical facility are transported to a laboratory equipped with testing equipment, nucleic acids of Mycobacterium tuberculosis complex are extracted from the specimens with a PURE DNA extraction kit, and then amplified by the LAMP method to determine whether or not Mycobacterium tuberculosis is present in the specimens.

# Eiken Chemical Co., ltd.

# 1. Name of product:

2. Image:

Loopamp<sup>™</sup> Malaria Pan Detection Kit Loopamp<sup>™</sup> Malaria Pf Detection Kit Loopamp<sup>™</sup> Malaria Pv Detection Kit



### 3. Primary Function: Diagnosis

### 4. Category: In vitro Diagnostic Reagent

### 5. Sales information:

Price	N/A
Year of launch	2017
Unit of sale	1 kit
Place of sale	Ethiopia, Laos, Cambodia
Company name	HUMAN Gasellschaft fur Biochemica und Diagnostica mbH
Model number	977000 (Pan), 978000(Pf), 975000(Pv)

### 6. Targeted health issues and product overview:

Malaria is one of the world's three major infectious diseases, affecting many countries, and the number of malaria patients worldwide will reach 247 million in 2021. Under these circumstances, highly sensitive diagnostic techniques are needed to prevent the spread of infection and to eradicate malaria. To solve these problems, malaria-LAMP was developed as a simple, rapid, and highly sensitive in vitro diagnostic product (molecule diagnostics test) that can detect up to one parasite. The company is now developing a test to contribute to the elimination of malaria by 2030.

Accessories and required consumables	Incubator (malaria only): Eiken Chemical (Japan): LF160 (680,000 JPY), HUMAN (overseas): HumaLoopM (-) Real-time turbidimeter (for both TB and malaria): Eiken Chemical (Japan): LoopampEXIA (2,000,000 JPY) HUMAN (Overseas): HumaTurb C+A HumaTurb (-)
Warranty period	1 year
Lifetime	Reagents: 18 months
Facility requirements	The equipment must be available for inspection. Equipment Installation Conditions Operating temperature Temperature 5°C-40°C Humidity 30-80%RH Storage Environment Temperature -5°C-50°C Humidity 30-80%RH Power supply voltage AC100V-240V±10% 300VA power supply available
Maintenance (*for medical equipment)	Maintenance is available through local distributors or HUMAN Gesellschaft für Biochemica und Diagnostica mbH ( <u>https://www.human.de/</u> )
Regulatory approval status	CE-IVDR Class C certified and EUDAMED registered
International public procurement performance	Demonstration tests are underway with support from GHIT, SATREPS, and others. No international public procurement experience.

### 8. Contact and other information:

Contact address.	Eiken Chemical Co., ltd. Sales Promotion Department 3, Section 1, Keiko Watanabe <u>keiko1_watanabe@eiken.co.jp</u> , +81-3-5846-3287
Website	https://www.eiken.co.jp/en/

### Case studies in low- and middle-income countries



- Swatini, Colombia, Laos, Cambodia, and Ethiopia (introduced under CE-IVDD specifications).
- Thailand (AMED), Senegal (Elimination Program Development)
- Vietnam (UNOPS Epidemiological Survey), and several other projects are under development.
- Laos, Philippines (NCGM project scheduled to start in 2023)
- The testing process involves transporting specimens (blood, etc.) collected at each medical facility to a laboratory equipped with testing facilities, extracting nucleic acids of Plasmodium spices from the specimens, and amplifying and detecting them by the LAMP method to determine whether Plasmodium spices is present in the specimens.

# **Fujifilm Corporation**

1. Name of product:

# FUJIFILM SILVAMP TB LAM II

2. Image:



#### Overall view of FUJIFILM SILVAMP TB-LAM II for diagnosis of Tuberculosis

### 3. Primary Function: Diagnosis

### 4. Category: In vitro diagnostic Reagent

### 5. Sales information:

Price	USD 50-150 / box
Year of launch	2023
Unit of sale	1 box (10 tests)
Place of sale	South Africa, Indonesia, Philippines
Company name	Fujifilm Corporation
Model number	16791704

#### 6. Targeted health issues and product overview:

This product is an antigen test kit to aid in the diagnosis of TB infection in people living with HIV (PLHIV).

Using a urine specimen, the test detects lipoarabinomannan (LAM), a component unique to Mycobacterium tuberculosis, in a highly sensitive, rapid, and simple manner. Tuberculosis (TB) causes 10 million new infections and 1.5 million deaths annually worldwide and is the leading cause of death among PLHIV. Sputum specimens are widely used in TB testing, but many PLHIV have difficulty in producing sputum, and a large percentage have extrapulmonary TB, which is difficult to detect with sputum specimens. The widespread use of this product can reduce the mortality rate due to TB and prevent the spread of infection by detecting TB infection and providing early treatment to many PLHIV who are overlooked in HIV highly endemic countries.

Accessories and required consumables	Kit Contents:         Test Cartridge and Reagent Tube         Nozzle         Pipette         10 pieces         Pipette         10 pieces         Tube Rack         Quick Reference Guide         Instructions for Use         1 pieces         Additional materials:         A urine collection cup and Timer
Warranty period	None
Lifetime	2 years
Facility requirements	Operating temperature 15 $\sim$ 35°C, humidity 30 $\sim$ 80%
Maintenance (*for medical equipment)	Not required
Regulatory approval status	CE IVDD self-declaration (May 2022) South African SAHPRA Registration (March 2023) Indonesia MoH Registration (November 2023)
International public procurement performance	None. Clinical trials are underway to obtain WHO recommendations for international public procurement via the Global Drug Facility (GDF) catalogue of the Stop TB Partnership.

### 8. Contact and other information:

Contact address.	Fujifilm Corporation Medical Systems Division, IVD Innovation Department Naoto Kimura (Mr.) Email : <u>naoto.kimura@fujifilm.com</u> Tel : +81-3-6271-1375
Website	(Reference: GHIT video) https://www.youtube.com/watch?v=xGPP9MiSMWA

#### Case studies in low- and middle-income countries

None. Clinical trials have been conducted in following 19 countries using prototype: Africa (Cameroon, Eswatini, Ethiopia, Ghana, Kenya, Lesotho, Malawi, Mozambique, Nigeria, South Africa, Tanzania, Uganda, Zambia), South America (Peru) and Southeast Asia (India, Indonesia, Philippines, Thailand, Vietnam). When introduced, the TB test will be used in hospitals (laboratories), clinics, testing centres, health posts, etc. to assist physicians in the diagnosis of TB.

# **Fujifilm Corporation**

1. Name of product:

# FUJIFILM SILVAMP Dengue NS1 Ag

2. Image:



Overall view of FUJIFILM SILVAMP Dengue NS1 Ag for diagnosis of Dengue

### 3. Primary Function: Diagnosis

4. Category: In vitro Diagnostic Reagent

# 5. Sales information:

Price	USD 50-100 / box
Year of launch	2022
Unit of sale	1 box (10 tests)
Place of sale	Thailand, Philippines, Indonesia
Company name	Fujifilm Corporation
Model number	16767674

### 6. Targeted health issues and product overview:

- This product is an antigen test kit to aid in the diagnosis of dengue virus infection (dengue fever). Using whole blood, serum, or plasma samples, the kit detects NS1, a component unique to the dengue virus, with high sensitivity, speed, and convenience.
- Dengue fever is endemic in more than 100 countries in Southeast Asia and Africa, with an estimated 400 million people infected annually.
- The risk of severe disease is increased, especially after the second infection, but the low level of NS1 antigen in the blood makes detection difficult.
- Early detection and treatment of dengue fever through the widespread use of this product, which is capable of highly sensitive detection of NS1, will help reduce the mortality rate.

Accessories and required consumables	Kit Contents         Test Cartridge         R1 tube (including dilution buffer)         Pipette         10 pieces         Tube rack (for R1 tube)         Nozzle (for R1 tube)         10 pieces         Instructions for use
Warranty period	None
Lifetime	2 years
Facility requirements	Operating temperature 15 $\sim$ 30°C, humidity 30 $\sim$ 80%
Maintenance (*for medical equipment)	Not required
Regulatory approval status	CE IVDD self-declaration (March 2022) Thailand FDA registration (August 2022) Indonesia MoH registration (October 2022)
International public procurement performance	None

# 8. Contact and other information:

Contact address.	Fujifilm Corporation Medical Systems Division, IVD Innovation Department Yuji Otsubo (Mr.) Email : <u>yuji.otsubo@fujifilm.com</u> Tel : +81-3-6271-1375
Website	https://global.fujifilm.com/en/ *Check the product page by selecting the country of sale from this website. (Reference: Thailand) https://www.fujifilm.com/th/th/healthcare/poct/immuno/silvamp-dengue-ns1-ag

### Case studies in low- and middle-income countries

It is used in hospitals (laboratories) and clinics to assist physicians in diagnosing dengue virus infection (dengue fever).

# Sysmex Corporation

1. Name of product:

# Automated Hematology Analyzer XN-31

# 2. Image:



# 3. Primary Function: Diagnosis

### 4. Category: In Vitro Diagnostic Equipment

### 5. Sales information:

Price	Please contact the company
Year of launch	2019
Unit of sale	Equipment: 1 unit
Place of sale	Africa, Europe Middle East, Japan
Company name	Sysmex Corporation
Model number	N/A

#### 6. Targeted health issues and product overview:

The Automated Hematology Analyzer XN-31 is designed for use in regions such as Africa, which are significantly affected by malaria. XN-31 can provide quick and accurate testing results, and easy-to-use for laboratory scientists without requiring skilled testing techniques. XN-31 can play a crucial role in the early detection and treatment of malaria, ultimately helping to reduce fatalities associated with the disease.

By analyzing a blood sample, XN-31 can automatically and accurately detect the presence of malaria-infected red blood cells in just one minute. XN-31 can also simultaneously measure Complete Blood Countparameters, allowing for a comprehensive assessment of the patient's health, including the identification of anemia commonly associated with malaria.

Accessories and required consumables	Reagents, controls are required	
Warranty period	Please contact the company	
Lifetime	Please contact the company	
Facility requirements	This product is designed for use in medical institutions, such as laboratories.	
Maintenance (*for medical equipment)	Periodic maintenance is required (*Please contact the company for details).	
Regulatory approval status	Approved by PMDA (2020), CE Mark (2019), FDA Ghana, KPPB Kenya, etc., and approved in malaria-endemic countries in Africa. Also approved in the EU, Middle East (Israel, Saudi Arabia, etc.), and the South-East Asia (Philippines, Malaysia, etc.)	
International public procurement performance	<ul> <li>WFP International Cooperation Grant Aid (Ghana)</li> <li>Installed in "Universal 'Nutrition' Health Coverage Plan through a Sustainable System for Improving Nutrition (WFP Partnership)".</li> <li>UNDP International Cooperation Grant Aid (Ghana)</li> <li>Installed in "Digital Solutions for Health, Nutrition and Medical Care (UNDP Partnership)" has been introduced.</li> </ul>	

# 8. Contact and other information:

Cont	tact address.	Nakamura Yukiko, Kamei Hinako nakamura.yukiko.1@sysmex.co.jp	
		kamei.hinako@sysmex.co.jp +81-3-5434-8910	
Web	site	https://www.sysmex-europe.com/products/diagnostics/haematology/xn-31-malaria-diagnostics/	

### Case studies in low- and middle-income countries



▲WFP International Cooperation Grant Aid



▲Laboratory in Ivory Coast



▲ UNDP Grant Assistance for International Cooperation



▲ Laboratory in Nigeria

At the top, you will find examples of international cooperation grants from WFP and UNDP, while the bottom features illustrations of their implementation across various countries.

# TAUNS LABORATORIES, INC.

# 1. Name of product:

# Capilia TB-Neo

# 2. Image:



### 3. Primary Function: Diagnosis

### 4. Category: In-vitro Diagnostic Reagent

### 5. Sales information:

Price	Please contact the parson in charge at TAUNS
Year of launch	2001: Capilia TB launched, 2007: Received WHO endorsement The successor product, Capilia TB-Neo, was launched in 2012, which also received WHO endorsement.
Unit of sale	100Test/Box OR 10Test/Box
Place of sale	Supply through UNOPS, The Global Fund, and the STOP TB partnership Supply through distributors in Asia, Africa, and Europe
Company name	TAUNS LABORATORIES, INC.
Model number	CATB0870, Capilia TB-Neo 100Test/Box CATB0871, Capilia TB-Neo 10Test/Box (*1 Each product code is for overseas use., *2 In Japan, Kyokuto Pharmaceutical Industry Co., Ltd. is the distributor.)

### 6. Targeted health issues and product overview:

This product aligns with the vision for tuberculosis prevention by 2030, as articulated at the United Nations General Assembly High-Level Meeting. Furthermore, the goal of ending tuberculosis by 2030 corresponds to Goal 3.3 of the Sustainable Development Goals (SDGs).

This product is an in vitro diagnostic reagent that detects MPT64 (MPB64), a protein secreted by Mycobacterium tuberculosis into the extracellular environment. After sputum samples are collected from patients and cultured, the culture fluid is used to perform a tuberculosis test using this product.

This product is listed in the Guidelines for Tuberculosis Bacteria Testing 2007 (Japanese Society for Tuberculosis, Committee for the Study of Methods for Testing Mycobacteria) and is used for the identification of tuberculosisThis product is also introduced in the WHO operational handbook on tuberculosis 3rd as a test for sputum cultures.

Accessories and required consumables	2007: WHO endorsement Listed on: The Global Fund's procurement list for tuberculosis testing Listed on: STOP TB partnership's DIAGNOSTICS, MEDICAL DEVICES & OTHER HEALTH PRODUCTS 2022 The kit consists of the following: Capilia TB-Neo 100 Test/Box: 100 test plates Capilia TB-Neo 10 Test/Box: 10 test plates (*Please prepare the culture medium for acid-fast bacteria separately at each facility.)
Warranty period	27 months after manufacture
Lifetime	Storage temperature 2-30°C
Facility requirements	A facility that can perform acid-fast bacillus testing is required.
Maintenance (*for medical equipment)	This product is not covered under maintenance
Regulatory approval status	Ministry of Health, Labor and Welfare Japan Approval Number 21700AMZ00801000 European IVDR Approval (*Also approved in multiple countries, mainly in Asia. )
International public procurement performance	Procurement experience centered on the African and South Asian regions through GDFs such as the Stop TB Partnership. Procurement experience through bidding in each country through contract agents in each country.

# 8. Contact and other information:

Website	Our company's website (English): <u>https://www.tauns.co.jp/en/</u> Capilia TB-Neo: <u>https://www.tauns.co.jp/en/product/capilia-tb-neo/</u>
Contact address.	Global business Department: Tsuyoshi Hayakawa <u>tsuyoshi_hayakawa@tauns.co.jp</u> Overseas business development office: Kazunari Nakaishi <u>k_nakaishi@tauns.co.jp</u>

Case studies in low- and middle-income countries

This product has been launched in about 30 countries, mainly in Africa and Asia.

2. Diagnosis/Evaluation

2.2 X-ray

# **Fujifilm Corporation**

1. Name of product:

# Portable X-Ray Radiography Equipment 'FDR Xair'

2. Image:



#### Overall view of Fujifilm's Portable X-Ray Radiography Equipment

### 3. Primary Function: Diagnosis

### 4. Category: Medical equipment

### 5. Sales information:

Price	USD 75,000 (1 set including Al software)
Year of launch	2020
Unit of sale	1
Place of sale	Japan, EU, Canada, UK, Australia, Taiwan, Hong Kong, Vietnam, Thailand, Singapore, Malaysia, Philippines, Indonesia, Cambodia, Myanmar, India, Pakistan, Bangladesh, New Zealand, Nepal, Iran, Iraq, Bahrain, Saudi Arabia, Kuwait, Qatar, Oman, Israel, UAE, Yemen, Azerbaijan, Turkey, Ukraine, Albania, Kazakhstan, Georgia, Turkmenistan, Kosovo, Mexico, Guatemala, El Salvador, Costa Rica, Panama, Colombia, Ecuador, Bolivia, Chile, Brazil, Paraguay, Argentina, Morocco, Algeria, Tunisia, Nigeria, Ethiopia, Madagascar, Mauritius, Swaziland, Zambia
Company name	Fujifilm Corporation
Model number	XD2000 PORTABLE E

### 6. Targeted health issues and product overview:

"A lightweight, compact, easily portable, and easy-to-operate portable radiography device."

Recommended by WHO as a new means of TB screening in 2021, the device supports the expansion of TB screening in developing countries, leading to early detection and treatment of TB.

It can be connected to the compact GPU unit "Ex mobile", also developed by Fujifilm, to provide compatibility with an AI-based app that assists the detection of consolidations and nodules, which are main findings that lead to TB diagnosis in chest X-rays.

Accessories and required consumables	<ul> <li>Portable X-ray system main unit</li> <li>Flat Panel Detector main unit</li> <li>Console PC for X-ray imaging</li> <li>Suitcase</li> <li>X-ray body indicator</li> <li>Flat panel detector indicator</li> <li>Lead apron</li> <li>Portable battery charger for X-ray body</li> <li>Al software (Option)</li> </ul>
Warranty period	Manufacturer's Warranty: 1-year Extended Warranty Plan available
Lifetime	7 years
Facility requirements	Continuous power supply (AC power, 100V to 240V, 450W, the battery lasts for 100 shots, 4.5-hour charge), temperature (in use) 15 to 30°C, relative humidity 15 to 80%.
Maintenance (*for medical equipment)	<ul> <li>For Middle Eastern and African countries, maintenance support is available from local agents in each country, with on-site maintenance support from regional headquarters in Dubai and South Africa as needed.</li> <li>For Southeast Asian countries, maintenance services are available from local subsidiaries or local agents in each country, and support is available from the regional headquarters in Singapore as needed.</li> <li>For Oceania Island countries, our regional headquarters in Australia can provide on-site or remote maintenance support.</li> <li>For Latin American countries, maintenance support is available from local agents in each country, with on-site maintenance available from the regional headquarters in the U.S., if necessary.</li> </ul>
Regulatory approval status	CE approval, PMDA approval
International public procurement performance	A Long-Term Supply Agreement Signed with UNOPS Supply through STOP TB GDF catalogue Supplied through Global Fund/ODA

### 8. Contact and other information:

Contact address.	Takuma Otsuka (Mr.) <u>takuma.otsuka@fujifilm.com</u> +81-90-2746-7605
	Tomoyasu Nakakubo (Mr.) <u>tomoyasu.nakakubo@fujifilm.com</u> +81-80-2190-6979
Website	https://www.fujifilm.com/ae/en/healthcare/x-ray/portable-x-ray/fdr-xair

# Case studies in low- and middle-income countries

1,600 units were procured for TB control via Global Fund/STOP TB and installed in 30 countries in Africa, Eastern Europe, Central Asia, Southeast Asia, Oceania, and Latin America

# **Fujifilm Corporation**

1. Name of product:

# Mobile X-ray systems 'FDR nano'

2. Image:



Pictorial view of Fujifilm's mobile imaging device for high-quality X-ray imaging easily handled in a variety of settings

### 3. Primary Function: Diagnosis

#### 4. Category: Medical equipment

#### 5. Sales information:

Price	USD 100,000 (1 set including AI software)
Year of launch	2017
Unit of sale	1
Place of sale	Singapore, Australia, Japan, EU, USA, Canada, South Korea, Taiwan, Hong Kong, Vietnam, Thailand, Malaysia, Philippines, Indonesia, Myanmar, India, Pakistan, Bangladesh, New Zealand, Iran, Bahrain, Saudi Arabia, Qatar, Oman, Israel, Jordan, Lebanon, UAE, Azerbaijan, Turkey, Ukraine, Bosnia and Herzegovina, Albania, Kazakhstan, Georgia, Turkmenistan, Uzbekistan, Kyrgyzstan, Tajikistan, Kosovo, Mexico, Guatemala , El Salvador, Colombia, Ecuador, Peru, Chile, Brazil, Paraguay, Uruguay, Argentina, Morocco, Algeria, Egypt, Ivory Coast, Nigeria, Mauritius, South Africa, Swaziland, Zambia, Botswana
Company name	Fujifilm Corporation
Model number	DR-XD1000

### 6. Targeted health issues and product overview:

"The lightweight and compact mobile X-ray system with a small, manoeuvrable body and built-in AI function to assist the radiologist in diagnosis."

The main unit weighs 90 kg, which is extremely lightweight for a mobile X-ray system, and can be moved manually, making it possible to move the unit between hospital wards even when the power is cut off due to a sudden power outage. It also has a built-in AI function to assist the radiologist's diagnosis. Immediately after taking X-rays, the AI-based heat map is displayed on the monitor to detect suspected diseases such as COVID-19 and tuberculosis and assist the radiologist in diagnosis. This product can be used freely in operating rooms, emergency rooms, and narrow hospital wards in emerging countries.

Mobile X-ray system main unit Flat Panel Detector	
Manufacturer's Warranty: 1 year Extended Warranty Plan available	
7 years	
Continuous power supply (AC power, 100V to 240V, max. 800W, battery lasts 12 hours, 4-hour charge), temperature (in use) 15 to 30°C, relative humidity 15 to 80%.	
For Middle Eastern and African countries, maintenance support is available from local agents in each country, with on-site maintenance support from regional headquarters in Dubai and South Africa as needed. For Southeast Asian countries, maintenance services are available from local subsidiaries or local agents in each country, and support is available from the regional headquarters in Singapore as needed. For Oceania Island countries, our regional headquarters in Australia can provide on-site/online maintenance support. For Latin American countries, maintenance support is available from local agents in each country, with on-site maintenance available from the regional headquarters in the U.S., if necessary.	
CE approval, PMDA approval, US FDA approval	
Supplied through Global Fund/ODA	

### 8. Contact and other information:

Contact address.	Takuma Otsuka (Mr.) <u>takuma.otsuka@fujifilm.com</u> +81-90-2746-7605 Tomoyasu Nakakubo (Mr.) <u>tomoyasu.nakakubo@fujifilm.com</u> +81-80-2190-6979
Website	https://www.fujifilm.com/ae/en/healthcare/x-ray/mobile-dr/fdr-nano

### Case studies in low- and middle-income countries



**3,700** units installed worldwide for COVID 19 and TB control applications

Picture 1: Vietnam, Picture 2: France, Picture 3: Thailand

# SHIMADZU CORPORATION

1. Name of product:

# Remote Controlled R/F system FLEXAVISION

2. Image:



- 3. Primary Function: Fluoroscopy scanner and Radiography System
- 4. Category: Medical equipment

### 5. Sales information:

Price	USD300,000~USD600,000
Year of launch	2022
Unit of sale	1 system
Place of sale	Worldwide (excluding some countries subject to export control)
Company name	SHIMADZU CORPORATION
Model number	REMOTE CONTROLLED R/F SYSTEM FLEXAVISION

### 6. Targeted health issues and product overview:

FLEXAVISION can perform orthopaedic and medical treatments and simple angiographic examinations under fluoroscopic guidance. Since it can also perform X-ray imaging, a single unit can play the dual role of fluoroscopy and radiography. A wide range of models are available, from FPD-mounted models to image tube-mounted models, with or without table elevation, with or without oblique insertion of the X-ray tube, etc., enabling the proposal of an optimal system for the installation environment, inspection needs, and budget.

Accessories and required consumables	N/A
Warranty period	The warranty period is one year after installation or one and a half years after shipment, whichever comes first.
Lifetime	7 years (if a maintenance contract is concluded and periodic inspections are performed at least once a year)
Facility requirements	Power requirements vary by model and specifications: please contact us for details. Operating environment: 10 to 35 degrees Celsius, humidity 30% to 75%.
Maintenance (*for medical equipment)	Available worldwide by distributors and subsidiaries (except for some countries subject to export control)
Regulatory approval status	PMDA, CE, and other marketing country approvals
International public procurement performance	Mongolia (Japan ODA), Pakistan (Japan ODA), Uzbekistan (World Bank) etc.

# 8. Contact and other information:

Contact address.	SHIMADZU CORPORATION Medical Equipment Division, Overseas Sales Department, Area Business Group, Area Manager Miyao Kazuno <u>salesall@group.shimadzu.co.jp</u> , +81-3-3219-5653	
Website	https://www.shimadzu.com/	

### Case studies in low- and middle-income countries

Bangladesh, Myanmar, Cambodia, and many others.

FLEXAVISION is widely used in university and general hospitals as well as local hospitals. Since both fluoroscopy (moving images) and photography (still images) can be performed with this single unit, many tests can be performed.

# SHIMADZU CORPORATION

1. Name of product:

# Mobile Radiography System MobileDaRt/Mobile Art

2. Image:



### 3. Primary Function: Mobile Radiography System

### 4. Category: Medical equipment

### 5. Sales information:

Price	USD100,000~USD400,000
Year of launch	2018
Unit of sale	1 system
Place of sale	Worldwide (excluding some countries subject to export control)
Company name	SHIMADZU CORPORATION
Model number	Mobile X-ray System MobileDaRt Evolution / MobileArt Evolution / MUX-10

### 6. Targeted health issues and product overview:

Mobile radiography equipment for use in isolation wards, hospital beds, operating rooms, ICUs, etc.

Used for pneumonia diagnosis and other medical and orthopaedic diagnoses.

MobileDaRt/Mobile Art has been used worldwide for diagnostic imaging in isolation facilities during the spread of COVID-19. The lineup includes a wide range of types, including FPD-mounted types, FPD-unmounted types, and manually operated types, enabling to propose of the most appropriate equipment for the operating environment, inspection needs, and budget.
Accessories and required consumables	N/A
Warranty period	The warranty period is one year after installation or one and a half years after shipment, whichever comes first.
Lifetime	7 years (if a maintenance contract is concluded and periodic inspections are performed at least once a year)
Facility requirements	Equipped with a rechargeable battery. Charging is done from an electrical outlet and can be done with single-phase 100-240V (household electrical outlet). The power supplied from the outlet may vary depending on the country or environment, so please contact us for details. Operating environment: 10 to 30 degrees Celsius, 35% to 80% humidity
Maintenance (*for medical equipment)	Available worldwide by distributors and subsidiaries (except for some countries subject to export control)
Regulatory approval status	PMDA, US FDA, CE, and other marketing approval
International public procurement performance	Emergency assistance against COVID: Madagascar, Cuba, Myanmar, etc

## 8. Contact and other information:

Contact address.	SHIMADZU CORPORATION Medical Equipment Division, Overseas Sales Department, Area Business Group, Area Manager Miyao Kazuno <u>salesall@group.shimadzu.co.jp</u> , +81-3-3219-5653
Website	https://www.shimadzu.com/

#### Case studies in low- and middle-income countries

Madagascar, Cuba, Myanmar, and many others.

Taking advantage of its features of being mobile and being able to perform on-the-spot diagnosis using an onboard monitor, MobileDaRt/Mobile Art has been installed in many isolation wards and isolation hospitals for diagnosis of COVID-19. It has been installed in university hospitals, general hospitals, and general hospitals that have wards, and are used to take images of patients who cannot move to the examination room from their beds in the ward or in the operating

# SHIMADZU CORPORATION

1. Name of product:

# Mobile C-arm Imaging System OPESCOPE ACTENO

2. Image:



- 3. Primary Function: Mobile Surgical C-arm Imaging System
- 4. Category: Medical equipment

## 5. Sales information:

Price	USD200,000~USD400,000
Year of launch	2023
Unit of sale	1 system
Place of sale	Worldwide (excluding some countries subject to export control)
Company name	SHIMADZU CORPORATION
Model number	SURGICAL MOBILE C-ARM IMAGING SYSTEM OPESCOPE ACTENO

#### 6. Targeted health issues and product overview:

Orthopaedic and medical treatments and simple angiographic examinations can be performed under fluoroscopic guidance. The lineup ranges from the latest models equipped with flat detectors to general-purpose models equipped with image tubes (vacuum glass tubes), enabling you to propose the optimum equipment to meet your inspection needs and budget.

Accessories and required consumables	N/A
Warranty period	The warranty period is one year after installation or one and a half years after shipment, whichever comes first.
Lifetime	7 years (if a maintenance contract is concluded and periodic inspections are performed at least once a year)
Facility requirements	Plug it into a power outlet and use it. Can be used with single-phase 100-240V (household electrical outlets). The power supplied by the outlet varies depending on the country and environment, so please contact us for details. Operating environment: 10 to 35 degrees Celsius, humidity 30% to 80%.
Maintenance (*for medical equipment)	Available worldwide by distributors and subsidiaries (except for some countries subject to export control).
Regulatory approval status	PMDA, CE, and other marketing country approvals
International public procurement performance	Mongolia (Japan ODA), Moldova (Japan ODA), Pakistan (Japan ODA), Cote d'Ivoire(Japan ODA) etc.

#### 8. Contact and other information:

Contact address.	SHIMADZU CORPORATION Medical Equipment Division, Overseas Sales Department, Area Business Group, Area Manager Miyao Kazuno <u>salesall@group.shimadzu.co.jp</u> , +81-3-3219-5653
Website	https://www.shimadzu.com/

#### Case studies in low- and middle-income countries

Zimbabwe, Nepal, Cambodia, and many others.

Opescope ACTENO has been installed in university hospitals, general hospitals, and single department hospitals with operating rooms. It is mainly used for orthopedic surgery and simple endovascular treatment, so it is installed in hospitals with operating rooms.

# SHIMADZU CORPORATION

1. Name of product:

# Radiography System RADspeed

## 2. Image:



- 3. Primary Function: Radiography System
- 4. Category: Medical equipment

## 5. Sales information:

Price	USD200,000~USD400,000
Year of launch	2018
Unit of sale	1 system
Place of sale	Worldwide (excluding some countries subject to export control).
Company name	SHIMADZU CORPORATION
Model number	RADspeed Pro / Radiography System RADspeed fit

## 6. Targeted health issues and product overview:

Radiographic equipment for diagnosis of pneumonia and other medical and orthopaedic diagnoses.

The lineup includes a wide range of types, such as ceiling-suspended/floor-mounted X-ray tubes, elevating/non-elevating imaging tables, and automatic X-ray tube tracking/non-automatic X-ray tubes.

Accessories and required consumables	N/A
Warranty period	The warranty period is one year after installation or one and a half years after shipment, whichever comes first.
Lifetime	7 years (if a maintenance contract is concluded and periodic inspections are performed at least once a year)
Facility requirements	Power requirements vary by model and specifications, so please contact us for details. Operating environment: 10 to 40 degrees Celsius, humidity 30% to 85%.
Maintenance (*for medical equipment)	Available worldwide by distributors and subsidiaries (except for some countries subject to export control)
Regulatory approval status	PMDA, US FDA, CE, and other marketing approval
International public procurement performance	Mongolia (Japan ODA), Myanmar (Japan ODA), Chile (Japan ODA), Jordan (Japan ODA) etc.

## 8. Contact and other information:

Contact address.	SHIMADZU CORPORATION Medical Equipment Division, Overseas Sales Department, Area Business Group, Area Manager Miyao Kazuno <u>salesall@group.shimadzu.co.jp</u> , +81-3-3219-5653
Website	https://www.shimadzu.com/

## Case studies in low- and middle-income countries

Myanmar, Laos, Kenya, and many others.

RADspeed has been widely introduced from university and general hospital class to clinic class as the primary means of diagnosing pneumonia, bone fractures, and other lesions.

# SHIMADZU CORPORATION

## 1. Name of product:

# Versatile Angiography system Trinias

## 2. Image:



## 3. Primary Function: Angiography system

#### 4. Category: Medical equipment

#### 5. Sales information:

Price	USD2,000,000~USD4,000,000
Year of launch	2023
Unit of sale	1 system
Place of sale	Worldwide (excluding some countries subject to export control)
Company name	SHIMADZU CORPORATION
Model number	Digital Angiography System Trinias

#### 6. Targeted health issues and product overview:

Equipment used to visualize devices such as catheters and stents by X-ray fluoroscopy during catheterization of cardiovascular, intracerebral, hepatic, and peripheral vessels.

The product lineup includes a wide range of devices, from dedicated cardiovascular, intracerebral, abdominal, and peripheral vascular systems to multi-purpose systems that cover all of these areas in a single unit, enabling to propose the optimal system to meet the installation environment, inspection needs, and budget.

Accessories and required consumables	N/A		
Warranty period	The warranty period is one year after installation or one and a half years after shipment, whichever comes first.		
Lifetime	7 years (if a maintenance contract is concluded and periodic inspections are performed at least once a year).		
Facility requirements	Power requirements vary by model and specifications; please contact us for details. Operating environment: 10 to 30 degrees Celsius, humidity 30% to 75%.		
Maintenance (*for medical equipment)	Available worldwide by distributors and subsidiaries (except for some countries subject to export control)		
Regulatory approval status	PMDA, US FDA, CE, and other marketing approval		
International public procurement performance	Mongolia (Japan ODA), Syria (WHO), Others		

## 8. Contact and other information:

Contact address.	SHIMADZU CORPORATION Medical Equipment Division, Overseas Sales Department, Area Business Group, Area Manager Miyao Kazuno <u>salesall@group.shimadzu.co.jp</u> , +81-3-3219-5653
Website	https://www.shimadzu.com/

## Case studies in low- and middle-income countries

Bangladesh, Myanmar, and many others.

Trinias has been installed in university hospitals and general hospitals class where catheterization can be performed.

# **Toyota Tsusho Corporation**

1. Name of product:

# X-ray diagnostic vehicle "Toyota Land Cruiser X-RAY diagnostic vehicle"

2. Image:



# 3. Primary Function: A vehicle for remote diagnosis of infectious diseases, mainly tuberculosis (\*equipped with X-ray and PCR testing equipment)

#### 4. Category: Medical Device

#### 5. Sales information:

Price	Please contact the company
Year of launch	N/A
Unit of sale	Please contact the company
Place of sale	Please contact the company
Company name	Toyota Tsusho Corporation
Model number	N/A

#### 6. Targeted health issues and product overview:

On-site diagnosis of infectious diseases, with a particular focus on tuberculosis, in areas that are difficult to access, such as remote areas, and areas that do not have medical facilities.

Tuberculosis is an infectious disease affecting approximately 10 million people each year. Alarmingly, around 3 million of these affected individuals do not receive medical treatment, and are in a situation where they are unable to receive not only medical examinations but also subsequent treatment, known as the "Missing Millions".

As tuberculosis diagnosis in developing countries is mainly carried out in hospitals and clinics, there is also the issue of reaching patients who live far away from these facilities.

To address these challenges, we present Toyota Land Cruiser, a medical device specially equipped with a portable X-ray machine and AI diagnostic device made by Fujifilm.

This innovative vehicle transforms into a mobile X-ray examination facility, where preliminary screenings are conducted using Al technology. It also includes a PCR testing device, allowing for rapid confirmation of positive diagnoses identified through X-ray. Depending on the cooperation with doctors, it is also possible to start treatment on the spot. Each piece of equipment is battery-powered, and a mobile battery is installed, so it is also possible to charge the equipment while the vehicle is in motion. Additionally, the vehicle is deployed with a working space (with a table and chairs) at the rear of vehicle, and a storage space for each piece of equipment.

The vehicle is also equipped with a tarp that can be deployed on the side of the vehicle, to provide protection against extreme heat (particularly in areas with strong sunlight), and offers privacy for changing clothes.

Accessories and required consumables	Please Contact the Company
Warranty period	Please Contact the Company
Lifetime	Please Contact the Company
Facility requirements	Please Contact the Company
Maintenance (*for medical equipment)	Please Contact the Company
Regulatory approval status	The X-ray and PCR testing equipment installed are WHO-recommended equipment for tuberculosis control.
International public procurement performance	N/A

## 8. Contact and other information:

Contact address.	Toyota Tsusho Corporation 1) Nakagawa Ko <u>ko_nakagawa@toyota-tsusho.com</u> , +81-50-3176-0943 2) Yuta Ohashi <u>yuta_ohashi@toyota-tsusho.com</u> , +81-50-3176-0961	
Website	N/A	

Case studies in low- and middle-income countries

This product has been introduced in Cameroon and Namibia.

2. Diagnosis/Evaluation

2.3 Other Diagnosis Device

# **Olympus Corporation**

1. Name of product:

# Gastrointestinal Endoscopy System FEVIS EXERA III J

2. Image:



## 3. Primary Function: Diagnosis, Treatment

#### 4. Category: Medical equipment

## 5. Sales information:

Price	Sales prices vary by region.
Year of launch	2012
Unit of sale	1
Place of sale	Japan and various countries through regional headquarters in the Americas, Europe, Middle East and Africa, and Asia Pacific.
Company name	Olympus Corporation
Model number	Video System Center (CV-190), Xenon light source (CLV-190) Gastrointestinal videoscope (GIF-H190), Colonovideoscope(CF-H190L) etc.

#### 6. Targeted health issues and product overview:

The EVIS EXERA III platform provides system compatibility across multiple specialities, including surgical endoscopy, gastroenterology, urology, and ENT for superior workflow and cost efficiencies. This multi-speciality platform supports over 100 different rigid, flexible, and articulating endoscopes.

Gastrointestinal endoscopes, which are one of Olympus' mainstay products, contribute to the early detection of lesions from gastrointestinal diseases such as cancer by incorporating technology aimed at improving the quality of lesion detection, diagnosis, and treatment, as well as examination efficiency.

If a suspicious lesion is found during the endoscopic examination, the area can be sampled for pathological examination. Gastrointestinal endoscopes can also be used together with endotherapy devices to treat early-stage cancers, as well as various treatments such as removal of polyps and accidental foreign objects.

Accessories and required consumables	Included accessories: keyboard, water container, cables, cleaning brush, etc. Other accessories and consumables required will vary depending on the procedure.
Warranty period	1 year
Lifetime	Varies by region and situation. The repair support period after the end of the sales period is 7 years.
Facility requirements	<ul> <li>Main power quality should be that of a typical commercial or hospital environment.</li> <li>Operating environment: ambient temperature 10 to 40°C, relative humidity 30 to 85°C (without condensation), atmospheric pressure 700 to 1060 hPa</li> <li>Standard storage environment (e.g. within the hospital): ambient temperature 5 to 40°C, relative humidity 10 to 90°C, atmospheric pressure 700 to 1060 hPa</li> </ul>
Maintenance (*for medical equipment)	Repair and maintenance services are available through a network of more than 200 repair centres around the world. Please inquire separately about available countries.
Regulatory approval status	PMDA, FDA, CE (MDR) compliant.
International public procurement performance	<ul> <li>UNOPS: Through UNOPS projects for Ukraine, Gastrointestinal endoscopy systems and Surgical endoscopy systems are installed in military hospitals in the capital city of Kyiv and regional cities and are used for diagnosis, endoscopic treatment and endoscopic surgical procedures of digestive diseases.</li> <li>2016: Gastrointestinal endoscopy system</li> <li>2020 and 2021: Surgical endoscopy systems</li> </ul>
	Please refer to the following link for more information. On this page, you will find pictures of our surgical endoscope systems. https://www.unops.org/news-and-stories/news/enhancing-medical-services-in-ukraine

## 8. Contact and other information:

Contact address.	Olympus Corporation Yohei Maeda yohei.maeda4@olympus.com
Website	https://www.olympus-global.com/

#### Case studies in low- and middle-income countries



Through the Japanese ODA, gastrointestinal and respiratory endoscopy systems, and surgical endoscopy systems have been installed in capital and regional core hospitals in many countries, including Ukraine, Moldova, Uzbekistan, Kenya, Angola, Ivory Coast, Vietnam, Indonesia, Costa Rica, Cuba and Tonga and other countries.

As one example, our gastrointestinal and respiratory endoscopy systems were installed in a total of seven major medical institutions, including Kenyatta National Hospital, in 2022 under the Grant Aid "Economic and Social Development Program" for Kenya.

In the regular business, the system has been introduced in many low- and middleincome countries through local subsidiaries and distributors.

# **PHC Corporation**

## 1. Name of product:

# Compact Immunoanalyzer PATHFAST and reagents

## 2. Image:



## 3. Primary Function: Diagnosis

## 4. Category: In vitro diagnostic reagents and medical equipment

#### 5. Sales information:

Price	Analyzer: Sales price vary by country. Consult local distributor. Reagents: Sales prices vary by country. Consult local distributor. PATHFAST hs-cTnI (60 test/kit), PATHFAST CK-MB (60 test/kit), PATHFAST Myoglobin (60 test/kit), PATHFAST NT- proBNP (60 test/kit), PATHFAST D-Dimer (60 test/kit), PATHFAST hsCRP (60 test/kit), PATHFAST Presepsin (60 test/kit), PATHFAST TB LAM Ag (60 test/kit), PATHFAST B·R·A·H·M·S PCT (60 test/kit)
Year of launch	2005
Unit of sale	Analyzer: 1 unit, Reagents: 1 kit
Place of sale	Austria, Bahrain, Belarus, Chile, China, Colombia, Costa Rica, Czech Republic, Egypt, France, Germany, Greece, Hungary, India, Indonesia, Italy, Japan, Kazakhstan, Kuwait, Lithuania, Nicaragua, Panama, Peru, Philippines, Poland, Romania, Saudi Arabia, Serbia, South Africa, South Korea, Spain, Switzerland, Thailand, U.K., UAE, USA, Viet Nam
Company name	PHC Corporation
Model number	Analyzer: 300929

#### 6. Targeted health issues and product overview:

PATHFAST is a clinical analyzer for emergency rooms and laboratories in hospitals and medical offices. It combines the accuracy of central laboratory quality with the speed of point-of-care testing (POCT) in a compact design. Operation is simple, and results are available within 17 minutes for whole blood, plasma, serum or other body fluid samples. Up to 6 samples or 6 biomarkers for cardiovascular and sepsis can be measured simultaneously.

PATHFAST hs-cTnl adopts the chemiluminescent immunoassay method which can measure the low concentration of cardiac troponin (cTnl) and meets international guidelines' criteria for the early detection of acute myocardial infarction. In addition, by the launch of a tuberculosis-related assay reagent in 2023, PATHFAST TB LAM Ag is expected to contribute to the eradication of tuberculosis, which is a challenge for developing countries.

Accessories and required consumables	Accessories: Handheld barcode reader, Cartridge rack Consumables: Waste Box (10 pieces/box) Tip (210 tips/box) Roll Paper (10 rolls/box)
Warranty period	1 year
Lifetime	5 years after manufacture
Facility requirements	Hospitals and clinics
Maintenance (*for medical equipment)	Periodic inspection once a year
Regulatory approval status	PMDA approval, IVDR certification, US FDA approval, China NMPA approval
International public procurement performance	N/A

## 8. Contact and other information:

Contact address.	Global Account Department, In Vitro Diagnostics Division, PHC Corporation Hiroki Kano, Teruyuki Sasaki, Takashi Soematsu Email: <u>ga-overseas@ml.phchd.com</u>
Website	Japanese: <u>https://www.phchd.com/jp/ivd/diagnostics/h1_pathfast</u> English: <u>https://www.phchd.com/eu/ivd/pathfast</u>

Case studies in low- and middle-income countries

Philippines: PATHFAST at Heart Center POC Laboratory



Hospital appearance

POC Laboratory

PATHFAST has been introduced in Asian countries such as the Philippines, Indonesia, and Thailand, and in Latin American countries such as Costa Rica and Colombia.

Mainly introduced in hospitals with emergency departments, cardiovascular markers such as hs-cTnl are used to diagnose acute myocardial infarction and as an aid in risk stratification of patients presenting with acute coronary syndromes.

Presepsin is used as an early diagnostic marker for sepsis and is increasingly being introduced in low- and middle-income countries due to its good performance in early diagnosis and severity risk prediction in neonates.

# OUI Inc.

## 1. Name of product:

# Smart Eye Camera

## 2. Image:



## 3. Primary Function: Screening, Tele-Medicine

#### 4. Category: Medical Device

#### 5. Sales information:

Price	1500 Euros (*including Smartphones, App without cloud storage limit, excluding tax and transportation fee)
Year of launch	2021
Unit of sale	1 unit
Place of sale	Japan, Europe, Indonesia, Cambodia, Vietnam, Kenya, Brazil
Company name	OUI Inc.
Model number	SLM i-08/SE2/SE3

## 6. Targeted health issues and product overview:

Blindness and visual impairment greatly diminish individuals' quality of life, leading to substantial medical and economic losses. Currently, there are 44 million people who are blind, and an estimated 2.2 billion are visually impaired.

Alarmingly, most of these cases are caused by preventable and treatable conditions, primarily affecting those in remote areas with limited access to eye care.

To address this pressing issue, OUI Inc. has developed the Smart Eye Camera (SEC), a smartphone-based diagnostic tool that functions as a slit-lamp microscope, direct fundus camera, and indirect fundus camera. It also incorporates telemedicine capabilities for remote diagnosis and features artificial intelligence functionality.

Accessories and required consumables	Smart Eye Camera (Hardware), Smart Eye Camera App (Software), Web Browse Unlimited Cloud Storage Limitations, Artificial Intelligence for Eye Diseases, iPhone applicable to SEC All included: 1500euro (without tax and transportation fess)
Warranty period	2 year
Lifetime	5 years
Facility requirements	No limitation
Maintenance (*for medical equipment)	Clean SEC regularly with soft and dry cloth such as microfiber cleaning cloth. In cleaning, do not use chemical liquid. Do not use autoclave facilities either.
Regulatory approval status	Registered as medical device in Japan, Europe, Indonesia, Cambodia, Vietnam, Kenya, Brazil
International public procurement performance	Featured in WHO compendium of innovative health technologies for low-resource settings 2024 IFC TechEmerge East Africa (Kenya) Inter American Development Bank-Silver Economy (Brazil) Embassy of Japan in Zimbabwe (Zimbabwe)

#### 8. Contact and other information:

Contact address.	Shintaro Nakayama (COO, OUI Inc.) <u>info@ouiinc.jp</u> +81-80-3014-8440 (whatsapp)
Website	https://ouiinc.jp/en/top/

## Case studies in low- and middle-income countries



Vietnam, Indonesia, Brazil, Mexico etc.

With the introduction of SEC, "medical staff in rural and marginalized areas of developing countries (most of whom are not ophthalmologists or medical doctors, but rather co-medical staff called Clinical Officers, Paramedicos, and Physician assistants) can take ophthalmic images with SEC, send them via smartphone to ophthalmologists in urban areas, and the ophthalmologists can diagnose them remotely, and then give the diagnosis result back to comedical staffs in order to offer them a proper treatment.

This will make it possible to deliver eye care to patients in rural areas and impoverished areas who have not been able to receive a diagnosis by an ophthalmologist.

In addition, since SEC uses camera and light source of smartphones and does not require any extra battery, it is possible to continue diagnosis even in the areas with electricity blackouts. 3. Biochemical analysis

# ARKRAY, Inc.

## 1. Name of product:

## Automated Dry Chemistry System SpotChem D-Concept 2c SD-4830

## 2. Image:



#### 3. Primary Function: Immediate biochemical test items

#### 4. Category: Inspection Devices

#### 5. Sales information:

Price	Please contact the company
Year of launch	Japan (2024), Overseas (scheduled to start sales in 2024)
Unit of sale	10/1-Unit
Place of sale	Japan
Company name	ARKRAY, Inc.
Model number	SD-4830

#### 6. Targeted health issues and product overview:

This device can perform key biochemical tests such as AST, ALT, TG, HDL, LDL, Cre, BUN, etc., which are major items for health examinations in Japan.

By using multiple test strips, it enables simultaneous measurement of various parameters such as cardiac function, liver function, renal function, and hypertension.

It is also suitable for immediate in-hospital testing, emergency testing at night, and testing of children because it can measure trace amounts of samples. The tablet PC allows for intuitive operation. Its compact design and dry chemistry technology eliminate the need for water supply or drainage facilities, allowing for convenient use at the bedside or in mobile clinic vehicles, facilitating testing in a variety of settings to ensure accessibility and efficiency.

Accessories and required consumables	Main unit, reagents, dedicated centrifuge container, etc.
Warranty period	1 year
Lifetime	5 years
Facility requirements	Power supply voltage AC 100 to 240V Operating environment Temperature: 10 to 30 $^\circ$ C, Humidity: 20 to 80
Maintenance (*for medical equipment)	Maintenance can be handled by local distributors in the country of sale
Regulatory approval status	EU (IVDR) CE marked
International public procurement performance	N/A

#### 8. Contact and other information:

Contact address.	Hironobu Yoshinaga, Nozomu Nieda <u>AGB-inquiry@arkray.co.jp</u>
Website	https://www.arkray.co.jp/japanese/products/poct/biochem/2c_sd-4830.html

# ARKRAY, Inc.

## 1. Name of product:

# Simplified blood analyzer The Lab 004

2. Image:



#### 3. Primary Function: Immediate examination of liver and kidney function

#### 4. Category: Inspection Devices

#### 5. Sales information:

Price	Please contact the company
Year of launch	2019
Unit of sale	10/1-Unit
Place of sale	Please Contact the Company
Company name	ARKRAY, Inc.
Model number	N/A

#### 6. Targeted health issues and product overview:

This compact device for assessing kidney and liver functions is designed for use in settings where water supply and drainage facilities are unavailable, and where the power supply is unstable. The dry chemistry technology and mobile battery make it particularly valuable in rural and mobile clinics where access to medical care is limited.

This product will be launched in phases starting in October 2019, aiming to enhance the early detection and treatment of chronic kidney and liver diseases, which are increasingly prevalent in the sub-Saharan region.

Accessories and required consumables	Main unit, reagents, pipettes
Warranty period	1 year
Lifetime	5 years
Facility requirements	N/A
Maintenance (*for medical equipment)	Maintenance can be handled by local distributors in the country of sale
Regulatory approval status	EU (IVDR) CE marked
International public procurement performance	N/A

## 8. Contact and other information:

Contact address.	Hironobu Yoshinaga, Nozomu Nieda <u>AGB-inquiry@arkray.co.jp</u>
Website	https://www.arkray.co.jp/english/products/primary_healthcare/clinical_chemistry/the_lab_004.html https://www.arkray.co.jp/thelab/thelab004/index.html

# ARKRAY, Inc.

1. Name of product:

# Electrolyte measuring system SPOTCHEM EL SE-1520

## 2. Image:



#### 3. Primary Function: Immediate electrolyte testing with trace specimens

#### 4. Category: Inspection Devices

#### 5. Sales information:

Price	Please contact the company
Year of launch	2005
Unit of sale	10/1-Unit
Place of sale	Japan, China, Korea, Taiwan, Mexico, England, Germany, France, Egypt, Morocco, etc. (*About 60 countries)
Company name	ARKRAY, Inc.
Model number	SE-1520

#### 6. Targeted health issues and product overview:

Electrolyte testing measures ion concentration in the blood to identify any abnormalities or imbalances in the body. The regulation of the water content in the body is primarily managed by kidneys and hormones. Any change in the electrolyte concentration in the blood can indicate potential dysfunction in kidneys or hormones.

This product allows for the simultaneous and immediate testing of sodium (Na), potassium (K), and chloride (Cl), facilitating the diagnosis of abnormalities in the body's balance and hydration status.

Its compact design makes it suitable for a variety of settings, such as in-hospital testing, bedside use, and mobile clinics.

Accessories and required consumables	Main unit, reagents, pipette
Warranty period	1 year
Lifetime	5 years
Facility requirements	Power supply voltage AC 100 to 240V Operating environment Temperature: 10 to 30°C, Humidity: 20 to 80
Maintenance (*for medical equipment)	Maintenance can be handled by local distributors in the country of sale
Regulatory approval status	EU (IVDR) CE marked
International public procurement performance	N/A

## 8. Contact and other information:

Contact address.	Hironobu Yoshinaga, Nozomu Nieda <u>AGB-inquiry@arkray.co.jp</u>
Website	https://www.arkray.co.jp/english/products/primary_healthcare/clinical_chemistry/the_lab_004.html https://www.arkray.co.jp/thelab/thelab004/index.html

## Case studies in low- and middle-income countries

This product has been installed in Mongolia, Myanmar, Cambodia, Iraq, Lebanon, Syria, Kazakhstan, Guatemala, Palestine, Gabon, Kenya and Somalia.

# ARKRAY, Inc.

## 1. Name of product:

# Compact Urine Analyzer PocketChem UA PU-4010

## 2. Image:



#### 3. Primary Function: Immediate urine qualitative testing

#### 4. Category: Inspection Devices

#### 5. Sales information:

Price	Please contact the company
Year of launch	2005
Unit of sale	50/1-Unit
Place of sale	Japan, China, Korea, India, Philippines, Australia, England, Germany, France, Mexico, Chile, Mauritius, etc. (~50 countries worldwide)
Company name	ARKRAY, Inc.
Model number	PU-4010

#### 6. Targeted health issues and product overview:

Urinalysis is a key component of health checkups and medical examinations in Japan. Screening tests for Glucose, Protein, Blood, etc. are useful for early detection of diabetes, kidney disease, and urinary tract infection, as well as for determining the effectiveness of their treatment.

This product enables these screening tests to be conducted with ease and simplicity.

Its compact size, and extremely lightweight design enhances portability, making it ideal for immediate testing in clinics, home visits and mobile clinics.

Main unit, urine test strips
1 year
5 years
Power supply voltage AC 100 to 240V Operating environment Temperature: 10 to 30°C, Humidity: 30 to 60
Maintenance can be handled by local distributors in the country of sale
EU (IVDR) CE marked
N/A

#### 8. Contact and other information:

Contact address.	Hironobu Yoshinaga, Nozomu Nieda <u>AGB-inquiry@arkray.co.jp</u>
Website	https://www.arkray.co.jp/english/products/primary_healthcare/clinical_chemistry/the_lab_004.html https://www.arkray.co.jp/thelab/thelab004/index.html

## Case studies in low- and middle-income countries

This product has been installed in Pakistan, Vietnam, Lebanon, Kazakhstan, Colombia, Guatemala, Kenya, Nigeria, and Mauritius.

# ARKRAY, Inc.

1. Name of product:

# Automated biochemical analyzer SPOTCHEM EZ SP-4430

2. Image:



3. Primary Function: Immediate examination of biochemical test items with trace specimens

#### 4. Category: Inspection Devices

#### 5. Sales information:

Price	Please Contact the Company
Year of launch	2000
Unit of sale	10/1-Unit
Place of sale	Japan, China, Korea, Taiwan, Thailand, Indonesia, England, Germany, France, Brazil, Mexico, Chile, Egypt, etc. (*About 80 countries)
Company name	ARKRAY, Inc.
Model number	SP-4430

#### 6. Targeted health issues and product overview:

Biochemical tests (AST, ALT, TG, HDL, LDL, Cre, BUN, etc.), which are major health checkup items in Japan, can be performed. By combining multiple test strips, several items can be measured at the same time, making it useful for the diagnosis of various indicators such as cardiac function, liver function, renal function, and hypertension.

In addition to immediate testing in hospitals and emergency testing during the night, the ability to measure trace amounts of samples makes it suitable for testing children.

The relatively small size and use of dry chemistry technology, which requires no water supply or drainage facilities, make it ideal for use at the bedside or in a traveling clinic vehicle, allowing for testing anywhere.

Accessories and required consumables	Main unit, reagents, dedicated centrifuge container, etc.
Warranty period	1 year
Lifetime	5 years
Facility requirements	Power supply voltage AC 100 to 240V Operating environment Temperature: 10 to 30 $^\circ$ C, Humidity: 20 to 80
Maintenance (*for medical equipment)	Maintenance can be handled by local distributors in the country of sale
Regulatory approval status	EU (IVDR) CE marked
International public procurement performance	N/A

## 8. Contact and other information:

Contact address.	Hironobu Yoshinaga, Nozomu Nieda <u>AGB-inquiry@arkray.co.jp</u>
Website	https://www.arkray.co.jp/english/products/primary_healthcare/clinical_chemistry/the_lab_004.html https://www.arkray.co.jp/thelab/thelab004/index.html

## Case studies in low- and middle-income countries

This product has been installed in Myanmar, Palestine, Iraq, Mongolia, Kazakhstan, Angola, Mozambique, Kenya, Ivory Coast, Kazakhstan, and Colombia.

# **Fujifilm Corporation**

1. Name of product:

# Biochemical Analyzer FUJI DRI-CHEM NX600, FUJI DRI-CHEM NX600i

## 2. Image:



#### Overall view of Fujifilm's biochemical analyzer model DRI-CHEM NX600

## 3. Primary Function: Diagnosis

#### 4. Category: In vitro diagnostic products, Medical Equipment

### 5. Sales information:

Price	Open price (Reference: Sales in Africa approx. USD 10,000/unit)
Year of launch	2020
Unit of sale	1 unit
Place of sale	Japan, South Korea, Taiwan, Vietnam, Thailand, Philippines, Indonesia, Myanmar, India, Maldives, East Timor, Iraq, European Union Member States Sixth enlargement in 2013(Sweden, Denmark, United Kingdom, Ireland, Netherlands, Belgium, Luxembourg, France, Germany, Portugal, Spain, Italy, Malta, Finland, Poland, Austria, Hungary, Greece, Romania, Bulgaria, Cyprus, Estonia, Latvia, Lithuania, Croatia, Slovenia, Czech Republic, Slovakia), EFTA member states(Iceland, Norway, Switzerland, Liechtenstein), Saudi Arabia, Israel, Lebanon, UAE, Azerbaijan, Armenia, Palestine, West Bank and Gaza, Kazakhstan, Georgia, Turkey, Ukraine, Belarus, Mexico, Guatemala, Honduras, El Salvador, Nicaragua, Costa Rica, Panama, Dominican Republic, Colombia, Venezuela, Ecuador, Peru, Bolivia, Chile, Brazil, Paraguay, Uruguay, Argentina, Tunisia, Libya, Egypt, Kenya, Tanzania, Mauritius, South Africa, Australia, Samoa, Fiji, Papua New Guinea, Solomon Islands, Vanuatu
Company name	Fujifilm Corporation
Model number	16673031(FUJI DRI-CHEM NX600) 16673043(FUJI DRI-CHEM NX600i)

#### 6. Targeted health issues and product overview:

Biochemical tests are the basis of clinical testing and are indispensable for diagnosing diseases, determining treatment, and monitoring the progress of medical conditions. It also plays a central role in health checkups. This product is an in vitro diagnostic reagent and a dedicated medical device for biochemical testing. While liquid-based medical devices, which are commonly used for biochemical tests, require large amounts of clean water and technicians with specialized skills, this product does not require water and can perform about 30 tests with very simple operations. Because of this feature, the product has been introduced to regions where it is difficult to supply clean water and secure professional inspectors, especially in remote areas of low- and middle-income countries.

Accessories and required consumables	The test reagents (in vitro diagnostic reagents) for this product are as follows: Enzymes Gamma-glutamyltranspeptidase, aspartate aminotransferase, alanine aminotransferase, creatine kinase, lactate dehydrogenase, amylase, creatine kinase isozyme, cholinesterase, alkaline phosphatase, lipase General Chemistry Glucose, urea nitrogen, creatinine, uric acid, total cholesterol, HDL-cholesterol, triglycerides, direct bilirubin, calcium, inorganic phosphorus, total protein, albumin, magnesium, total bilirubin, ammonia, total CO2 Electrolytes: Na-K-Cl Immunological test: C-reactive protein (Information on reagents for testing) Average price (varies per item): approx. 1 USD/test, Storage temperature: 2-8°C Expiration date: 18 months (12 months for direct bilirubin and creatine kinase isozymes only) Consumables for this product include a control solution for accuracy control, tips, diluent for C-reactive protein measurement, reference solution for Na-K-Cl measurement, tips for specimen aspiration, mixing cups, and tubes for measurement.
Warranty period	1 year
Lifetime	6 years after delivery
Facility requirements	The following operating conditions must be met: Indoor use, altitude 2000 m or less, overvoltage category II, pollution degree 2, IP protection class IP00 (no protection), operating temperature 15–32°C, operating humidity 30–80%RH (no condensation)
Maintenance (*for medical equipment)	1-month, 3-month, 12-month, and 24-month periodic maintenance items available. Can be checked on the screen inside the device.
Regulatory approval status	PMDA, CE, and other marketing country approvals have been obtained.
International public procurement performance	20 units installed in Kenya by EQUITY AFIA Limited, which is a medical organization active mainly in Kenya: <u>https://www.equityafia.co.ke/about-us/</u> Considering introducing 20 units in Congo.

#### 8. Contact and other information:

Contact address.	Fujifilm Corporation Medical Systems Division, IVD Innovation Department, Koki Maeda <u>koki.maeda@fujifilm.com</u> ,+81-3-6271-1375
Website	https://global.fujifilm.com/en/ *Can be checked from the product page by selecting the country of sale from this website. (Reference: Japan) https://www.fujifilm.com/jp/ja/healthcare/ivd/chemical-analysis/fdcnx600

#### Case studies in low- and middle-income countries

Sales have been made in the following low- and middle-income countries. Indonesia, Myanmar, India, Vietnam, Belarus, Mexico, Guatemala, Maldives, Nicaragua, Costa Rica, South Africa, Georgia, Ecuador, Argentina, Vanuatu, Turkey, Tanzania, Mauritius, Samoa, Libya, Papua New Guinea, Solomon Islands, Fiji, Egypt, El Salvador, Philippines, Iraq, Armenia, Honduras, Thailand, Brazil, Paraguay, Timor-Leste, Colombia, Ukraine, Kenya, Dominican Republic.

# 4. Others

# **Daido Industries**

## 1. Name of product:

# CONSTAR

## 2. Image:



## 3. Primary Function: Temperature control

## 4. Category: Medical Device

## 5. Sales information:

Price	100USD (1Pack)
Year of launch	2016
Unit of sale	18 Packs
Place of sale	Japan, Myanmar, Laos, Uzbekistan
Company name	Daido Industries
Model number	PC CONSTAR II: No. 22062, RBC CONSTAR II: No. 04062, FFP CONSTAR II: No. 2806

#### 6. Targeted health issues and product overview:

Constar is a cold pack designed to maintain the temperature of blood products and vaccines during transport in shipping containers, ensuring optimal conditions at 22°C, 4°C, or -20°C and below.

Accessories and required consumables	Vacuum-insulated shipping container
Warranty period	1 year
Lifetime	2-5 years
Facility requirements	A constant temperature bath (22°C) for pre-cooling before use, a refrigerator (4°C), and a freezer (-30 to -40°C) are required.
Maintenance (*for medical equipment)	Local distributors in Thailand, Myanmar, Laos, Vietnam, Indonesia and Uzbekistan can handle inquiries.
Regulatory approval status	No pharmaceutical approval is required in countries where it is sold Listed in the WHO Compendium of innovative health technologies for low-resource settings 2022
International public procurement performance	Myanmar, Laos

### 8. Contact and other information:

Contact address.	Shinsuke Ogiri <u>office@daido-ind.co.jp</u> +81-6-6746-7141
Website	https://www.daido-ind.co.jp/en/blood-bank-equipment/cold-bench/

#### Case studies in low- and middle-income countries





In the JICA SDGs Business Support and Dissemination Demonstration Project for Small and Medium Enterprises, Constar is used as a cold storage material for blood collection at the Myanmar National Blood Center (Yangon) and the Uzbekistan Republic Blood Center. It also supports the low-temperature transport of blood from blood collection centers to medical institutions.





# **MIZUHO** Corporation

1. Name of product:

# Electric Hydraulic Operating Table MOT-5602BW

2. Image:



## 3. Primary Function: General operating table used in surgery

## 4. Category: Medical equipment (electric operating table)

#### 5. Sales information:

	•
Price	USD 33,000
Year of launch	2016
Unit of sale	1
Place of sale	Japan, Ireland, Kuwait, Jordan, Saudi Arabia, Syria, Iraq, Sri Lanka, United Arab Emirates, Mexico, Costa Rica, Russia, Palestine, Peru, Bolivia, Taiwan, Laos, China, Morocco, Italy, Malaysia, Singapore, Oman, South Africa, Georgia, Hong Kong, India, Ukraine, Israel, Papua New Guinea, Pakistan, Denmark, Hungary, Czech Republic, Slovakia, Myanmar, Lebanon, Indonesia, Egypt, United Kingdom, Bangladesh, Qatar, Philippines, Romania, Guatemala, Nicaragua, Korea Poland, Vietnam, Thailand, Bahrain
Company name	MIZUHO Corporation
Model number	MOT-5602BW

#### 6. Targeted health issues and product overview:

This product is a versatile operating table used for a wide range of surgical procedures. It is one of the most commonly used types of operating tables in hospitals and surgical centres and can be used in conjunction with operating table accessories for a variety of surgical procedures. It is designed to safely and flexibly support a variety of surgical procedures by accommodating various surgical positions with the following features.

Height adjustment, tilt function, longitudinal slide function, X-ray transparency, and mobility within the operating room.

The wide elevation range and sliding width of this product, among other features, provide significant advantages when used in conjunction with Xray fluoroscopic diagnostic equipment for observation of bones, organs, and blood vessels inside the patient's body during surgery, surgery with a microscope, and surgery under an endoscope.

Accessories and required consumables	Standard accessories: Mattress, Operation box, Power cord
Warranty period	1 year
Lifetime	10 years
Facility requirements	<ul> <li>AC power supply: 100-240V, 50-60Hz</li> <li>*Battery built in as standard. Assumes 1 week of operation without AC power from a fully charged battery)</li> <li>Room temperature: 10-40°C</li> <li>Humidity: 30-85%.</li> <li>Air pressure: 700-1060 hPa</li> </ul>
Maintenance (*for medical equipment)	Maintenance can be performed through a local distributor in the country of "Current Sales Location".
Regulatory approval status	PMDA, FDA, and CE (MDR) compliant.
International public procurement performance	N/A

#### 8. Contact and other information:

Contact address.	MIZUHO Corporation International Business Headquarters, Ryoma Ito <u>(r.ito@mizuho.co.jp)</u> , +81-3-6627-1506
Website	https://www.mizuho.co.jp/ https://www.mizuho.co.jp/en/

#### Case studies in low- and middle-income countries

#### Case Study:

One unit was delivered to Referral Hospital in Siem Reap Province as part of the "Siem Reap Provincial Hospital Development Project," a Japanese ODA project for the Kingdom of Cambodia. The purpose of use is for neurosurgery/ENT/abdominal/thoracic/orthopedic/urological/trauma surgery.

#### ODA and commercial projects delivered in the past 5 years:

India 10 units, Indonesia 4 units, Papua New Guinea 2 units, Bangladesh 11 units, Philippines 1 unit, Vietnam 3 units, Malaysia 1 unit, Myanmar 22 units, Cambodia 3 units, Nepal 3 units, Pakistan 4 units, Mongolia 1 unit, Uzbekistan 3 units, Syria 5 units, Senegal 1 unit.

# **NEC Corporation**

## 1. Name of product:

## E-voucher management system

## 2. Image:



## 3. Primary Function: Management of distribution of supplies, treatment and training, etc.

## 4. Category: eHealth

## 5. Sales information:

Price	Depends on individual quotation.
Year of launch	2015
Unit of sale	N/A
Place of sale	Mozambique, Namibia
Company name	NEC XON(NEC Corporation's regional headquarters in Africa)
Model number	N/A

## 6. Targeted health issues and product overview:

The IC card is linked to the cardholder's information and token-based money information (information on subsidies provided), allowing the holder to select supplies from a dedicated application on the retail store's smartphone and purchase using the card to record their purchase history and other transacted information.

Although it is especially important to manage the history of vaccines and other items such as when and what they were taken, it is currently difficult to manage such information accurately and reliably by using paper-based vouchers alone.

Therefore, the e-voucher management system will be used to confirm the ID and transaction history of the user, and to ensure the management of such information to realize a society in which "Leave no one behind."

Accessories and required consumables	<ul> <li>Smartphones with Near Field Communication (NFC) functionality*</li> <li>IC cards</li> <li>Smartphone chargers</li> <li>* Functions available in general smartphones</li> </ul>
Warranty period	Individual consultation
Lifetime	Individual consultation
Facility requirements	N/A
Maintenance (*for medical equipment)	N/A
Regulatory approval status	Not required
International public procurement performance	<ul> <li>2015-2020 Collaboration with FAO in Mozambique</li> <li>2021 Published in WHO's Compendium as [e-voucher, vaccination management</li> <li>WHO compendium of innovative health technologies for low-resource settings 2021. COVID-19 and other health priorities</li> <li>2021 Collaboration with UNDP in Namibia</li> <li>2022 Collaboration with UN Women in Mozambique</li> </ul>

### 8. Contact and other information:

Contact address.	NEC Corporation Global Relations Department / Marie Mazuka <u>m-mazuka@nec.com</u> , +81-80-8435-7531	
Website	AFP Article: https://www.afpbb.com/articles/-/3445307	

## Case studies in low- and middle-income countries

FAO case study



UN Women case study





FAO case study: Although paper vouchers had been distributed to small farmers to support subsidies, there were issues such as loss of vouchers, high operational costs for distribution, and lack of transparency in how the vouchers were used. By using e-vouchers, they were able to be reissued when beneficiary losts their cards. The system enabled FAO to transfer token-based funds digitally, and reference purchase histories at the shop on the Web, thereby contributing to transparency in the use of the vouchers and subsequent decisions on support policies.

**UN Women:** Utilized for the purpose of distributing not only foodstuffs but also daily necessities such as sanitary goods and soap to internally displaced women.

# Toyota Tsusho Corporation

1. Name of product:

## Toyota Land Cruiser RVTV, a cold storage vehicle dedicated to vaccine transportation

2. Image:



Fig. A, B: Overall view of the vehicle, Fig. C, D: Rear-compartment mounted vaccine-specific refrigerators

#### 3. Primary Function: Cold chain transport of vaccines (2-8°C) (specialising in last mile transport)

#### 4. Category: Medical equipment

#### 5. Sales information:

Price	USD 60,000/Unit (Reference) The general price for UN agencies (non-Euro engine)
Year of launch	2021
Unit of sale	1 unit
Place of sale	<ul> <li>The sales contract is the International Cooperation Group, Mobility Planning Department, Toyota Tsusho Corporation.</li> <li>The sales target countries are all countries<sup>*1</sup> where Toyota Land Cruisers have been introduced<sup>*2</sup>, and developing countries are generally covered (major regions: all of Africa, South East Asia, South Asia, the Middle East, the Caribbean and the Pacific states, etc.).</li> <li>For further details, please contact the contact person listed.</li> <li>*1 Determination of introduction based on Toyota Motor Corporation's emission regulations and other laws and regulations in each country.</li> <li>*2 Countries and regions that have not yet introduced the vehicle or that do not comply with laws and regulations can be considered for introduction, depending on special exceptions and exemptions from laws and regulations on the part of the government of the country introducing the vehicle.</li> </ul>
Company name	Toyota Tsusho Corporation
Model number	Toyota Land Cruiser 78 RVTV

#### 6. Targeted health issues and product overview:

Transport of medical vaccines requiring 2-8°C cold transport.

Vaccines to be transported include all vaccines that must be kept cool at 2-8°C (e.g., childhood immunization vaccines, corona vaccines, malaria vaccines, etc.). We can also transport pharmaceuticals and other products that require the same cold storage conditions.

Temperature control and safety of vaccine vials are the most important aspects of vaccine transportation. The main issue in vaccine transportation in developing countries is the means of transportation. Existing vehicles are not dedicated to vaccine transportation and are at risk of damage and temperature rise and fall. This vehicle is designed to carry vaccines directly, thus realizing safe transportation of vaccine vials. The most important temperature control feature is a dedicated refrigerator capable of precise temperature control, and the 16-hour battery and recharging system (recharging from an external power source while the vehicle is in motion) enable cold storage and transportation, including long-distance transportation. Dry goods (consumables necessary for vaccination, such as needles and gauze) can also be loaded inside the vehicle and on the roof rack, making it possible to carry not only the vaccines necessary for vaccination campaigns but also the equipment and personnel required for vaccination. The Land Cruiser undercarriage enables the vehicle to travel on unpaved roads and rough terrain, and to transport inaccessible areas, specializing in last-mile transportation.

Joint trials in five African countries with the GAVI Vaccine Alliance have demonstrated the contribution of the vehicle to improving the efficiency of vaccine transport operations in the field, reducing transport costs, and reducing the number of unimmunized children.

Accessories and required consumables	Data logger included for temperature recording (*free of charge).
Warranty period	Normally 3 years or 100,000 km, whichever comes first *1 Refrigerator part is guaranteed for 3 years, while the above periods for vehicles are standard and by the warranty periods set by Toyota distributors in each country.
Lifetime	More than 10 years <sup>*1</sup> *1 Refrigerator built-in battery expected life of 10 years (battery can be replaced). Assuming that periodic inspections are performed by Toyota standards for vehicles, a longer lifetime than the above is possible if inspections are performed.
Facility requirements	After completion of vaccine transport, recharging is recommended at a normal electrical outlet or power source.
Maintenance (*for medical equipment)	<ul> <li>After-sales support by Toyota distributors and refrigerator manufacturer service agents in the country of introduction.</li> <li>Maintenance recommendations are as follows: <ul> <li>Vehicle: Periodic inspections at the Toyota distributor or dealer in each country are recommended. Daily maintenance as described in the operation manual is recommended.</li> <li>Refrigerators: Periodic cleaning of the interior. Drainage.</li> </ul></li></ul>
Regulatory approval status	WHO PQS E002/001
International public procurement performance	Preparing to conclude a long-term contract with UNICEF (target end 2023). Preparing to conclude a long-term contract with UNOPS (target end-2023). Country of Introduction: Palestine Niger Uganda Angola Uganda Laos Bosnia and Herzegovina Mongolia Madagascar South Sudan Kenya Burkina Faso Ghana Central African Republic Dominican Republic Senegal Mozambique Egypt Equatorial Guinea Sudan

## 8. Contact and other information:

Contact address.	Toyota Tsusho Corporation 1) Nakagawa Ko <u>ko_nakagawa@toyota-tsusho.com</u> , +81-50-3176-0943 2) Yuta Ohashi <u>yuta_ohashi@toyota-tsusho.com</u> , +81-50-3176-0961
Website	Listed on the website of the partner fridge manufacturer: https://www.bmedicalsystems.com/en/solutions/vaccine-cold-chain/refrigerated-vaccine-transport-vehicle/
	Also listed in the WHO PQS catalogue: https://apps.who.int/immunization_standards/vaccine_quality/pqs_catalogue/categorypage.aspx?id_cat=16 (YouTube Video) "Driving change: These Landcruisers are transforming vaccine delivery in Africa": https://www.youtube.com/watch?si=8Agu8AZ0E9IY2eaV&v=vDCI5oql3NI&feature=youtu.be

# Case studies in low- and middle-income countries

Case 1: Niger.





Case 2: Burkina Faso





**Fig. A: Vehicles in transit:** The vehicle can be driven on rough roads without problems. The roof rack (on top of the vehicle) is equipped with the essential consumables for vaccination. The roof rack can carry not only the vaccine vials (undiluted vaccine), but also the equipment required for the entire vaccination.

Fig. B: Arrives at the delivery point and distributes vaccines: Normally, vaccines need to be transported in cold boxes, but in the case of RVTV, vaccines can be taken out directly. Fig. C: Scenes of essential consumables being stacked on a roof rack:

Fig. D: Distribution at delivery points as in Niger: Fig. E: Actual post-delivery vaccination scene. (Corona vaccination)



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