



Hygiene
is health

RFID STERILIZATION

Management &
Documentation
System

What is **DURU** RFID Sterilization System?



Unlike conventional methods such as square coding, color labeling, it uses the speed and advantages of RFID technology to manage surgical instrument sterilization processes. System provides the application of the IoT (Internet of Things) revolution in sterilization processes with RFID tags appropriate technical characteristics fixed on them without damaging the surgical instruments.

What it does?

The system also provides sterilization processes to participate in the health institution information habitat as a complete package solution by meeting the work flow, management and reporting needs of the sterilization unit with current technologies and integrated with third party information management systems.

Health issues caused by preventable errors, such as deaths, disabilities etc. can be because of forgotten a foreign object in patient body. There are many cases like this in Turkey and around the World. Deaths caused by this issue, brings punishment, physical or spiritual cost. Results of the cases show how important it is.

If we consider a completion phase of a surgical operation, before ending the operation, staff will be able to count surgical instruments. In this way there will be no case like a surgical instrument is forgotten in patient body or it is missing. This provides the work safety, increase the corporation prestige and helps to prevent the issues that we mentioned. The system provides expansion from central sterilization unit to whole institution with this technology. Managing the workflow will be easier and more efficiency.

For Who?

Duru has been designed with qualitative and parametric structure that can meet the needs of many businesses in different fields.

- ✓ City Hospitals
- ✓ Government Hospitals
- ✓ University Hospitals
- ✓ Private Hospitals
- ✓ Dental Hospitals
- ✓ All institutions that include sterilization system



For Who?

Why RFID?



RFID tags are adhesived to surgical instruments with a special adhesive. Since laser engraving process is not required, they do not pose any health risks by damaging the surface of the instrument.



Surgical instruments that are given to dirty section might have blood, tissue or some objects on it. Through RFID technology, counting process will not be affected. Precleaning will not be required so time will not be wasted.



Square codes are very small that's why most of the time users are facing with set counting and validation problem on surgical instrument. Since RFID is used, the size of the tags will not be important.



If a surgical instrument is not in where it is belong (might be forgotten in patient body or lost), with using RFID detector finding surgical instrument is very easy without any eye contact.



Typical RFID reading process can read up to 600 pieces in a second. Also you can read all surgical instrument at a time. This helps staff to gain time.

Feel the power of RFID Technology

Set counting and validation is extremely fast with devices can read up to 600 pieces in a second. Through RFID detector you can find the missing surgical instrument without any eye contact

Manage the Business with RFID

Radio Frequency Identification (RFID) technology is used for monitoring and recognition of all kinds of objects, alive and inanimate, without touching recognition on distance.

1234
5678

IMPROVED COUNTING TECHNOLOGY

Detailed configuration options allow system to read under the toughest conditions



WORKS WITHOUT TAG

Tagless tracking for some instruments that RFID tag can not be mounted



SQUARE CODE SUPPORT

Fully support for materials that square codes are scraped before



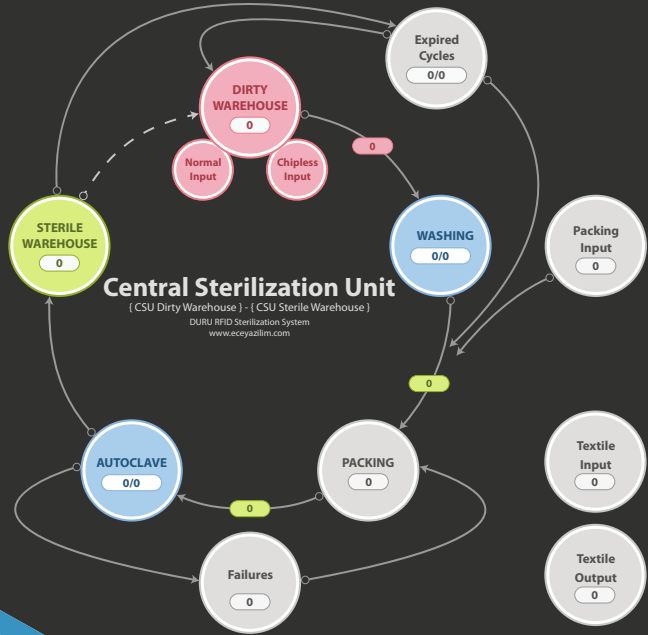
ERGONOMIC USAGE

RFID tags do not affect the surgeons with its small size



Easy

INNOVATIVE Design



System provides workflow process completely graphically on user interface. Minimizes the adaptation time of new employee, maximizes the staff's efficiency. Decrease process time, increase staff's focus on work



Interactive Design

Equipment in operation, materials in transfer status, sets marked as urgent and equipment test reminders, the control of users on the workflow increases, and details that may be overlooked are prevented.



Touch Screen

System is designed to be used entirely with touch screens. By presenting the messages explaining all processes and remarkable warnings graphically, it is aimed for the employee to do their jobs in the easiest way and the new employee to adapt in the fastest way.

Visual Recognition and Counting

1234

5678

For materials, one or more images can be assigned from Image Catalog. Visual details of the materials are presented in the counting screens thus the workload of the employee is reduced and possible errors are prevented.

Continuously **Cycle Management and Documentation**

All processes from dirty receiving to packaging, from autoclave entry to use, solution entry and exit processes of the sets or materials are recorded without losing the business logic order and details can be printed for all operations.

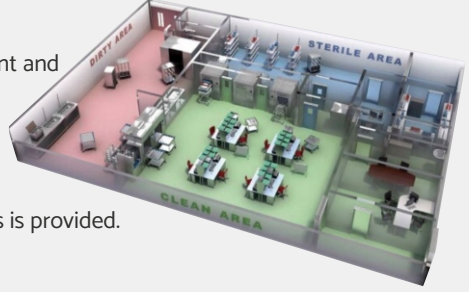


Completely Suitable **FOR THE REGULATIONS**

Each detail presented within the framework of the system, has been developed according to national and international standards and regulations regarding sterilization processes.

Machine Park

Washing unit, autoclave, other sterilization equipment and all types of device or equipment used can be registered in the system. Necessary receipts can be created for devices that are malfunctioned or need maintenance. Thus management of the transactions is provided.



Disinfection Implementation

By entering the desired number of sites for each customer, the parts to be disinfected at the relevant site and the disinfectants to be used can be defined. Users can enter the disinfection processes in the system via the front / back office or mobile application.



Lost and Defective Instruments **ARE TRACEABLE**

During counting process, maintenance, repair or disposal can be applied to instrument that is marked as defective or lost. All transactions related to the instruments are recorded and can be traced retrospectively.



Everywhere in the Field **With Mobile Application**



Integrated **Mobile RFID Reader**

Mobile RFID reader allows you to take record for each process like operating room, outpatient clinic at places. The transactions recorded with the NFC card reading feature can be recorded in a mutual record without the need for a wet signature. Offline stored data is automatically transferred to the central system when online.

What? Where?

All sets and materials coming to defined warehouses are included in the inventory and the contents of the warehouse are taken under control. It is possible to monitor all movements by transferring between dirty and sterile warehouses.



Pre-accounting and Inventory Tracking

During sterile delivery and disinfection processes an optional waybill can be created. Dispatches entered automatically or manually can be invoiced to the relevant current account. All chemicals, indicators, consumption/consumable materials that used in the business can be record as purchase or sales invoices. Also with receipts like consumables, wastage, deficiencies or excess, inventory can be traced.



Invoice



Incomes



Accounts



Stock



Reporting

Integrated Web Services

Advanced Web service structure makes possible to transfer data to third party software. In addition, system can generate alarm for third party alarm systems (entrance / exit doors, etc.) for registered RFID codes optionally by making instant queries 24/7 via web services.

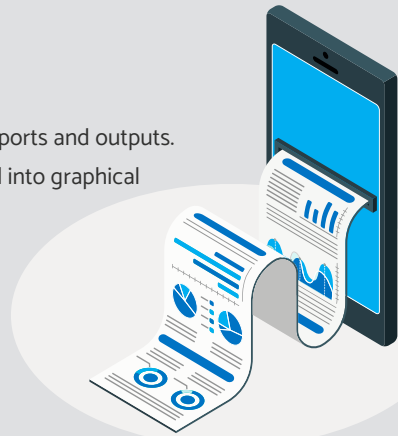
Reports beyond the **Standards**

In addition to the predefined reports within the central reporting system, SQL queries and new reports, filters and charts can be defined. Report results can be customized by customizing with pivot tables.



Customizable **Prints**

Multiple different designs can be created for all reports and outputs. Results obtained in tabular form can be converted into graphical outputs. All reports can be converted to different formats such as Excel, Word, PDF etc.



Authorization & Control

Users can access only certain parts of the system and perform the specified functions by distinguishing the same day or different days with detailed authorization groups.



Event Manager (LOG) Records Everything

All transactions performed on the system are recorded simultaneously in the event manager.

Who, where, when, what questions
can be answered in the
event viewer.



System's General Features



- ✓ It saves time and operating resources by shortening the reading, counting, verification process times up to 90% with RFID technology.
- ✓ By offering work flow processes with a completely visual interface, it minimizes the staff training and adaptation process, and shortens the processing times and increases the focus of the staff on their work.
- ✓ NFC card reading feature reduces choosing staff and login duration to almost zero.
- ✓ Separates front and back office processes to prevent confusion.
- ✓ Provides full control over users with highly detailed authorization system.
- ✓ It provides on-site and timely control by spreading business processes throughout the field with mobile application.
- ✓ Demonstrates who did what and when with detailed event management.
- ✓ Detailed reporting system provides maximum support to administrative and decision processes with the ability to create personal custom reports or designs.
- ✓ With its parametric structure, it offers solutions to different needs of different institutions and organizations from a single point.

Front Office Application



- ✓ Dirty receiving
- ✓ Codeless dirty receiving
- ✓ Receiving from Packing Section
- ✓ Washing input / output
- ✓ Packing
- ✓ Autoclave input / output
- ✓ Unsuccessful sterilization renewal
- ✓ Distribution
- ✓ Sterilization timeout
- ✓ Transfers between warehouses
- ✓ Solution input / output
- ✓ Association with patient file
- ✓ Disinfection procedures
- ✓ Textile input / output
- ✓ Emergency set tracking
- ✓ Equipment maintenance tracking

Back Office Application

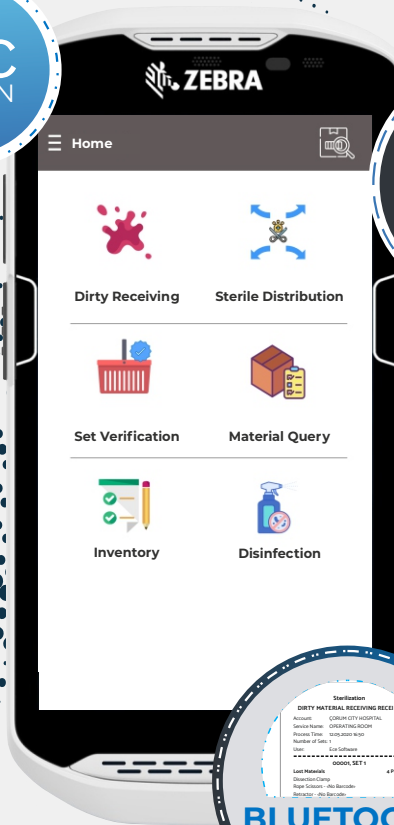
- ✓ System Parameters
- ✓ Authorization Groups
- ✓ Users
- ✓ RFID Blacklist
- ✓ Instrument Picture Catalog
- ✓ Report Designs
- ✓ Cycle Management
- ✓ Disinfection Procedures
- ✓ Defective & Lost Instrument Management
- ✓ Repair & Disposal Procedures
- ✓ Equipment Operations
- ✓ Equipment Failure Records
- ✓ Warehouses
- ✓ Price Groups
- ✓ Sterilization Baskets
- ✓ Equipment Program Definitions
- ✓ Equipment Operation Definitions
- ✓ Equipment Descriptions
- ✓ Material Descriptions
- ✓ Service Definitions
- ✓ Local Usage Types
- ✓ Disinfectant Definitions
- ✓ Set Template Definitions
- ✓ Set Definitions
- ✓ Current Account Definitions
- ✓ Service Definitions
- ✓ Employee Definitions
- ✓ Location Definitions
- ✓ Cash Definitions
- ✓ Cash Transactions
- ✓ Current Account Transactions
- ✓ Packing Slips
- ✓ Bills
- ✓ Stock Transactions
- ✓ Central reporting system
- ✓ Custom reports



Mobile Application

NFC
SIGN-IN

WORKS
OFFLINE



BLUETOOTH
PRINTING



Dirty Receiving



Sterile Distribution



Set Verification



Instrument Inquiry



Inventory



Disinfection

Surgical Instrument Installation

RFID tags are fixed to surgical instruments with a special adhesive and are cured. Under normal conditions, it is almost impossible to remove the labels from the tool without breaking them. Adhesion tests have shown that labels still have the same strength, even after 1000 autoclave cycles. If necessary, the labels can be removed from the tools by disrupting the chemical structure of the adhesive at high temperatures. It does not have a negative effect on the use of operators with its small dimensions.



High Speed Maximum Capacity

Readers can read between 860 - 960 Mhz and up to 600 tags per second. The system has advanced reading capability with detailed antenna and signal strength options, can improve the reading function and obtain the maximum reading efficiency even in difficult physical conditions.

Frequency	856 - 928 Mhz
RFID Chip Features	Class I Gen 2 ISO-18000-6C
Dimensions	25mm x 1.5mm x 1.5mm
Weight	0.4g
Reading Range	2m
Usage Type	On Metal
Max. Heat Resistance	185° C
Classification	IP68





SCAN ME

To get further information
about our products, please
scan the code via barcode
scanner on your smartphone



+90 364 333 0 133



Organize Sanayi Bölgesi Teknokent İdari Binası
No: 1/9 Merkez/ÇORUM



ECE YAZILIM

Intelligent Business Solutions

We are After the Best

We are keep working to provide
best **user experience** and **support** to
our customers.