

Arçelik A.Ş.

ROS



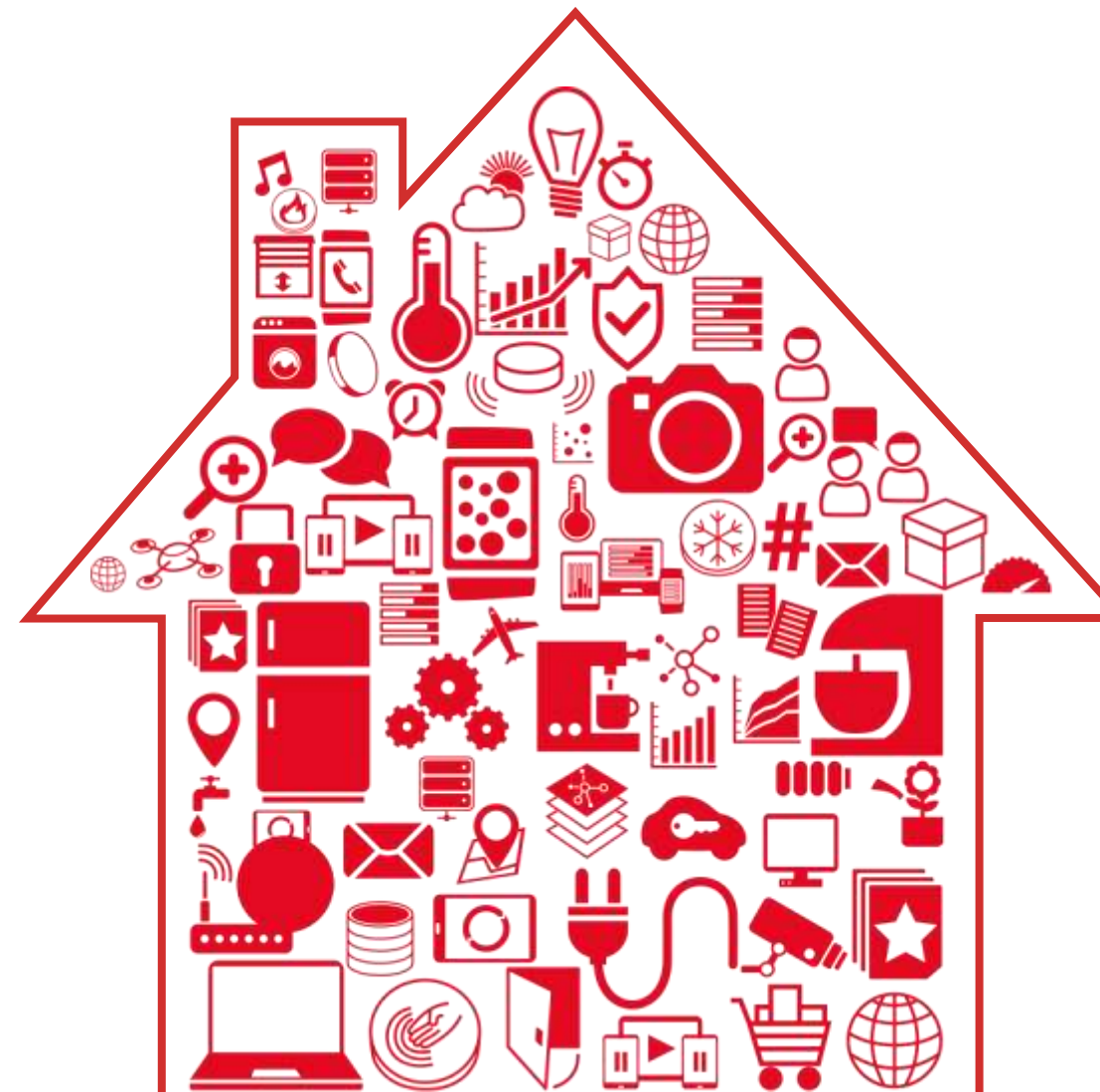
Arçelik A.Ş.

ROS

Design with the best powerful performance

A **U**nique **E**mbodied **O**perating **S**ystem For All **P**roducts

Under The Roof Of Arçelik



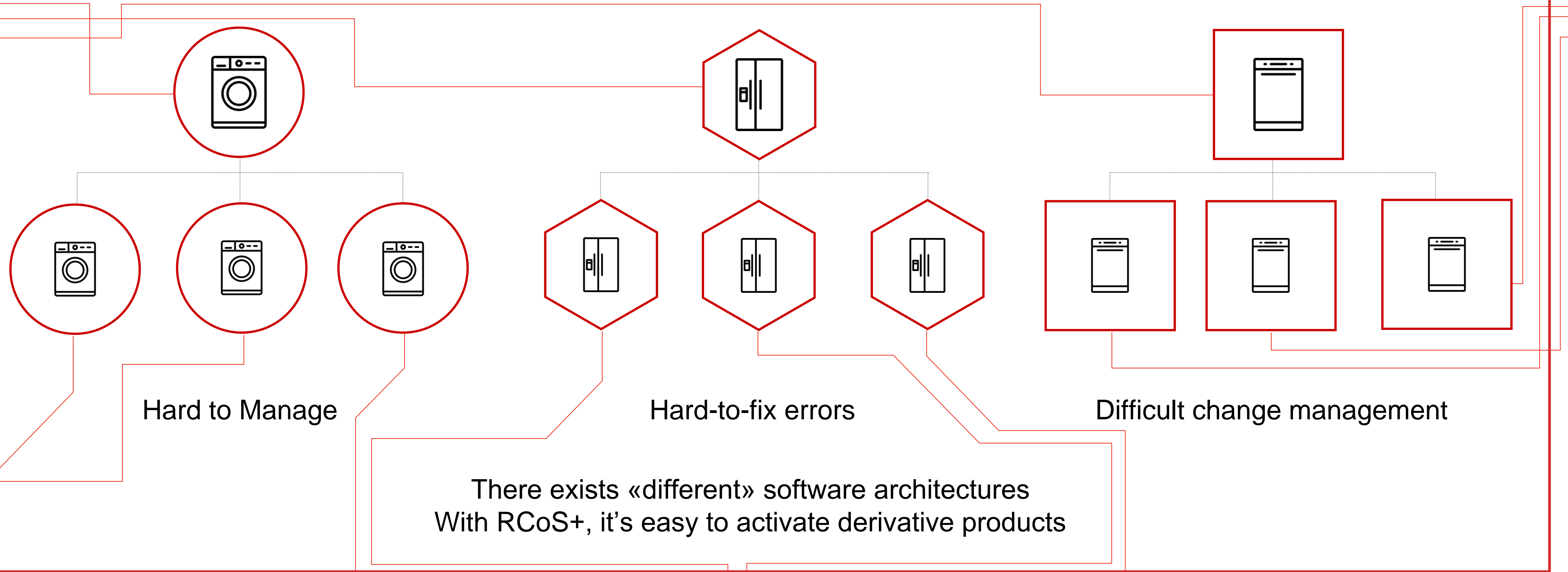
WHY?

ROS+

Arçelik A.Ş.

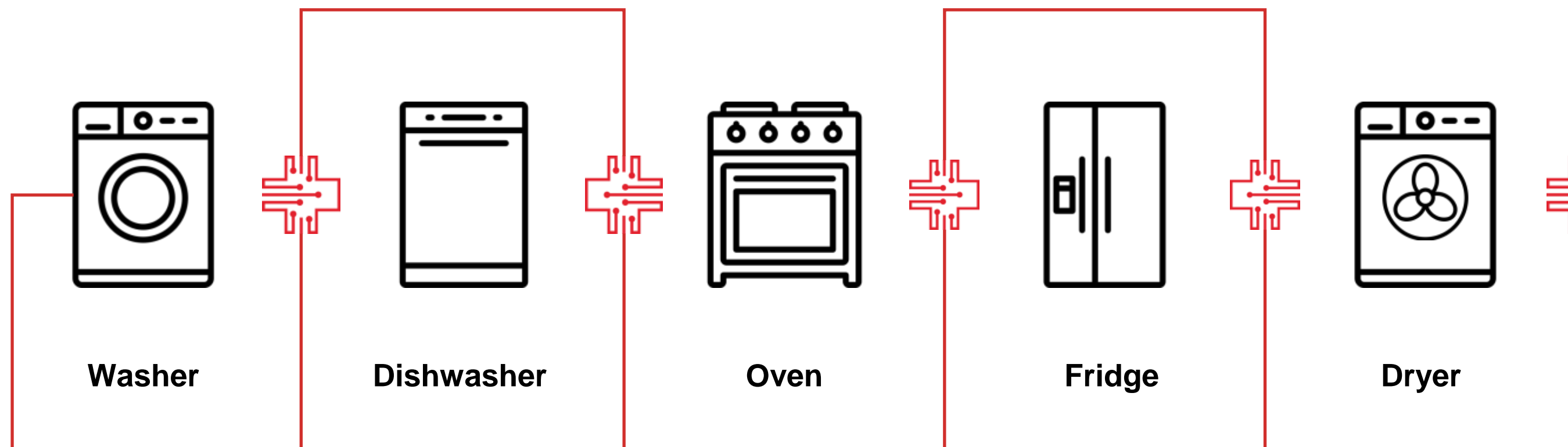


Embedded Software Framework

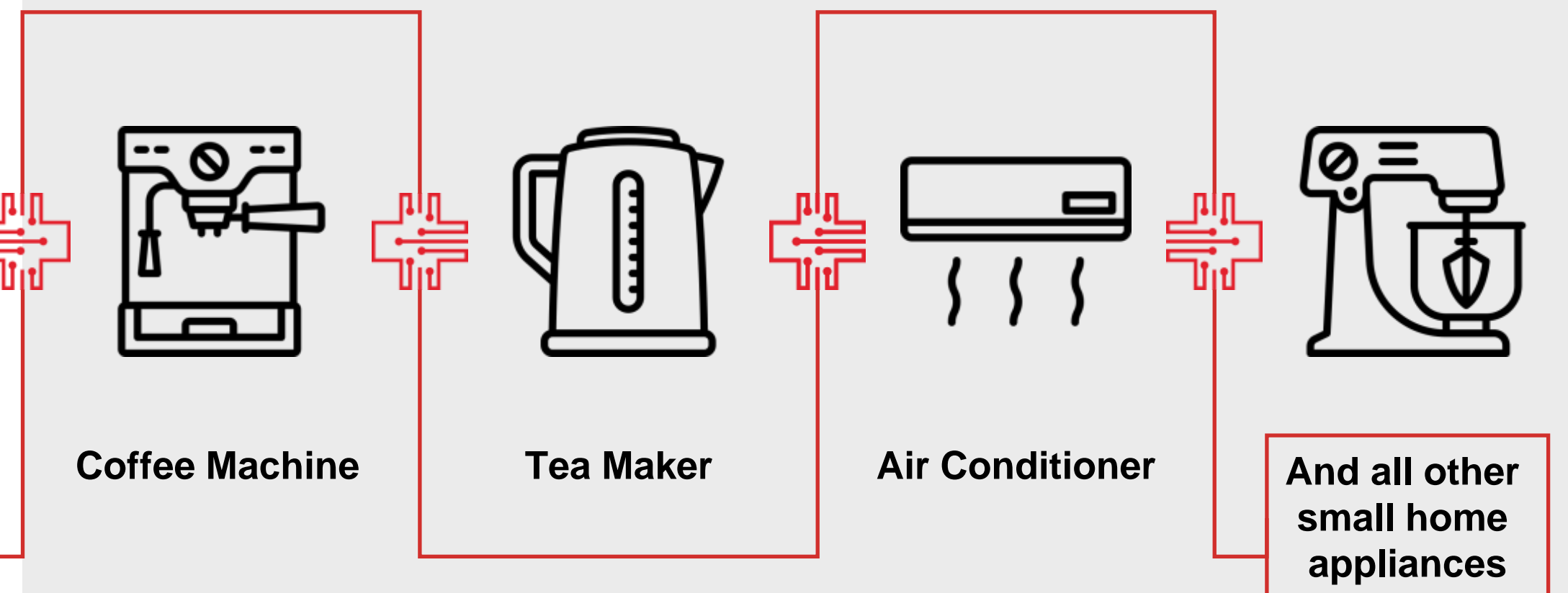


More Than Just for a White Goods Embedded Operating System

Not only for



At the same time, for



WHAT?

ROS+

Arçelik A.Ş.

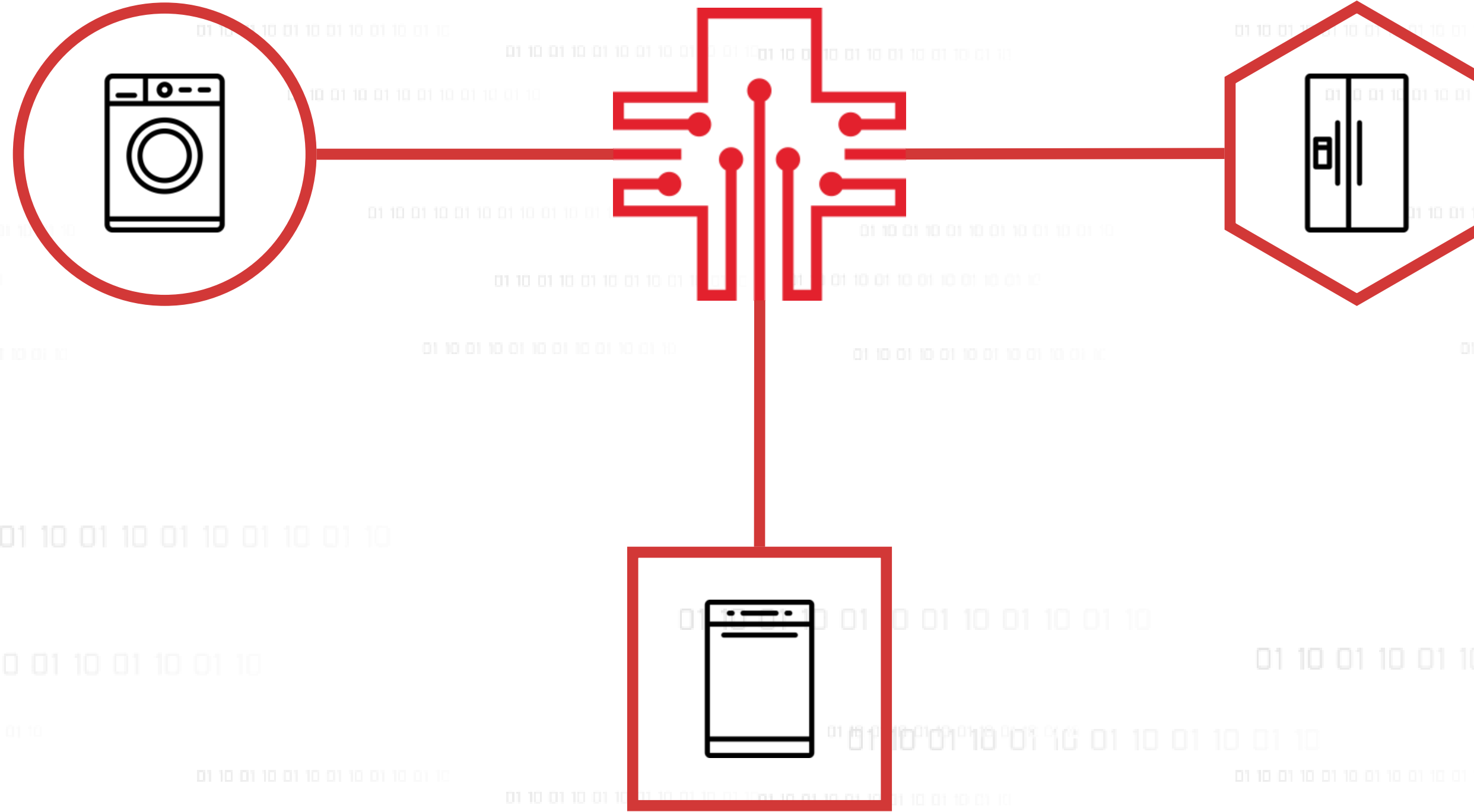


A Common Software Framework for Every Product

Arçelik A.Ş.

We establish a common structure with every product without exception

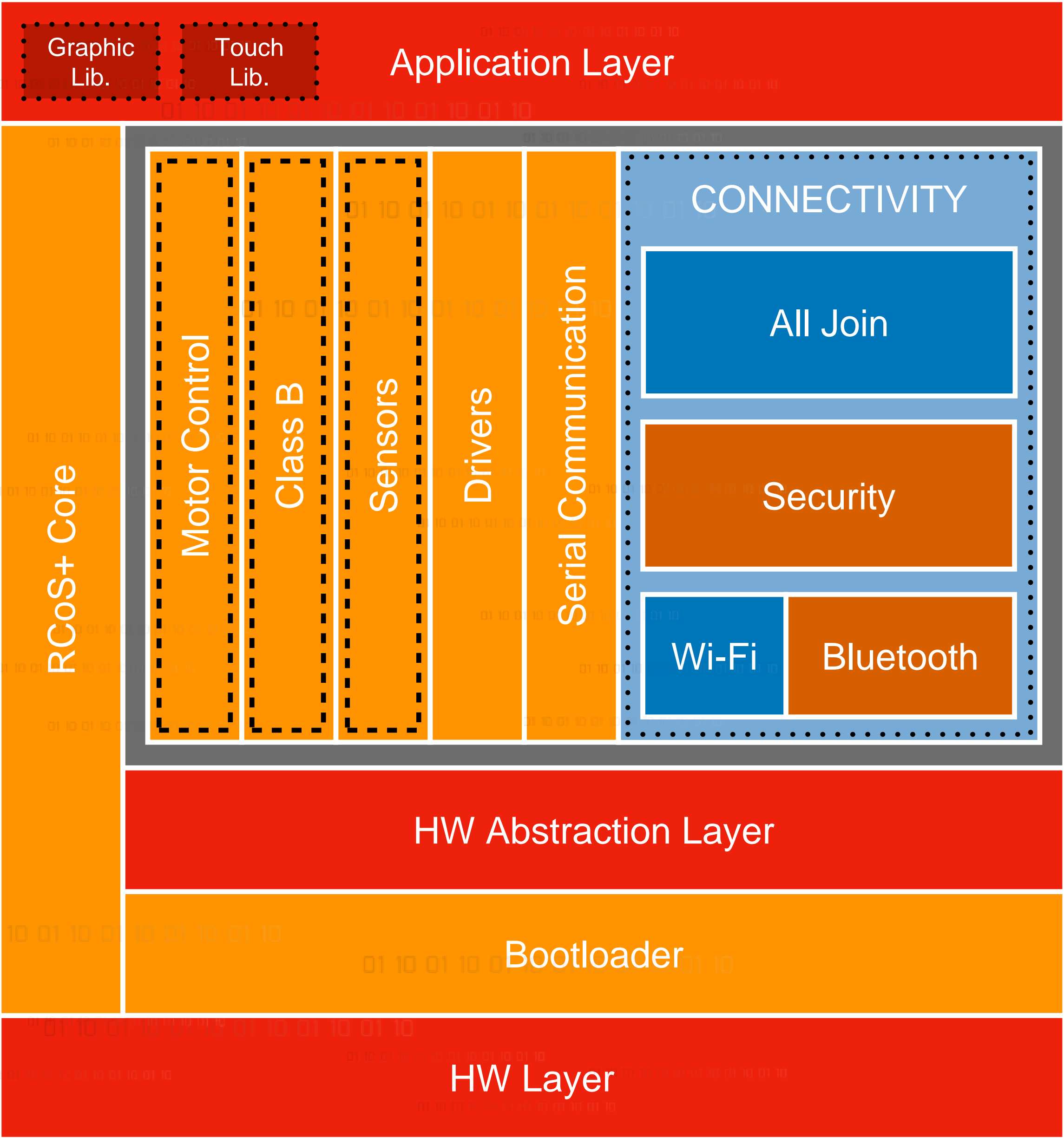
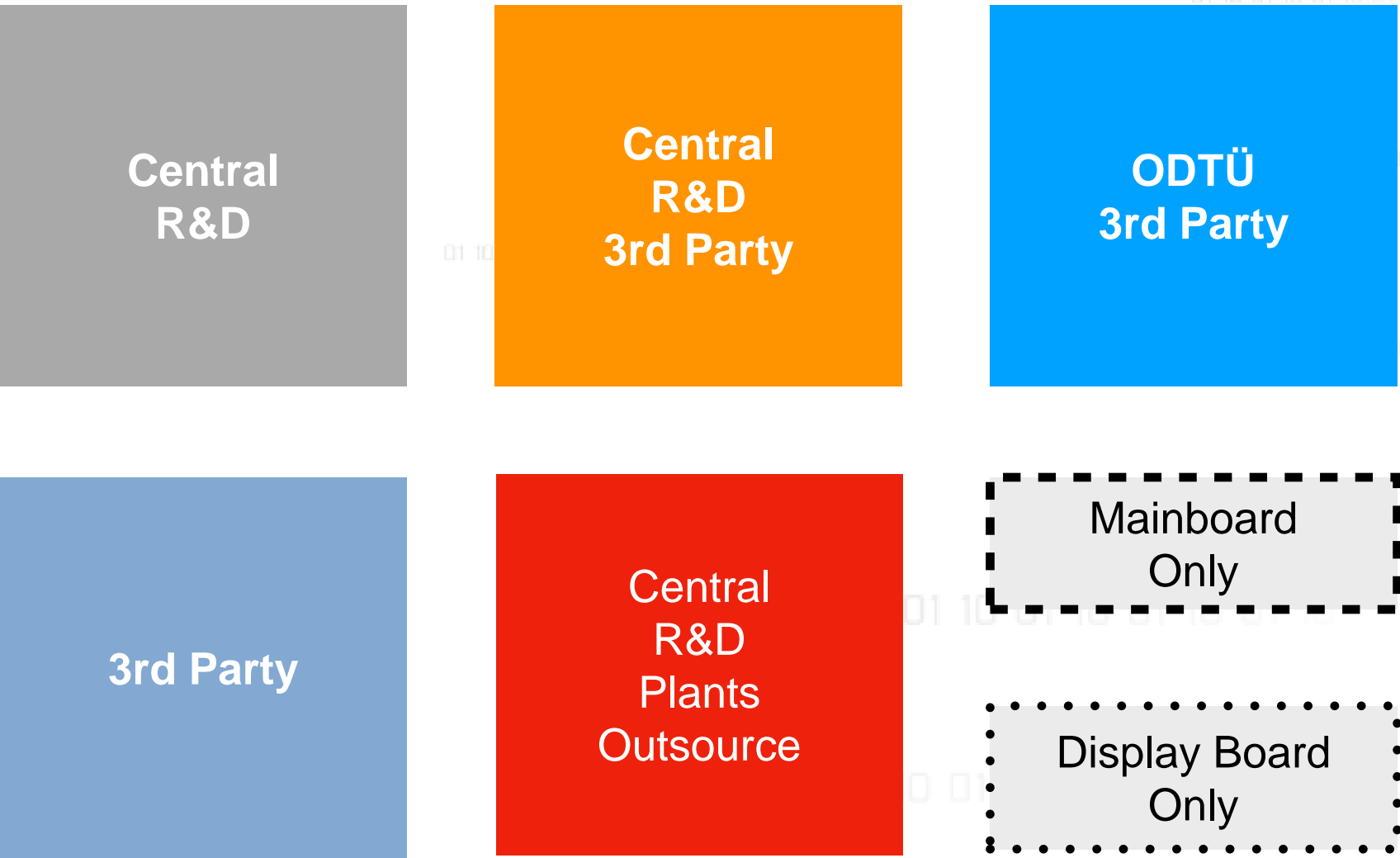
Even though various products have their own software, a common software for all of them is possible.



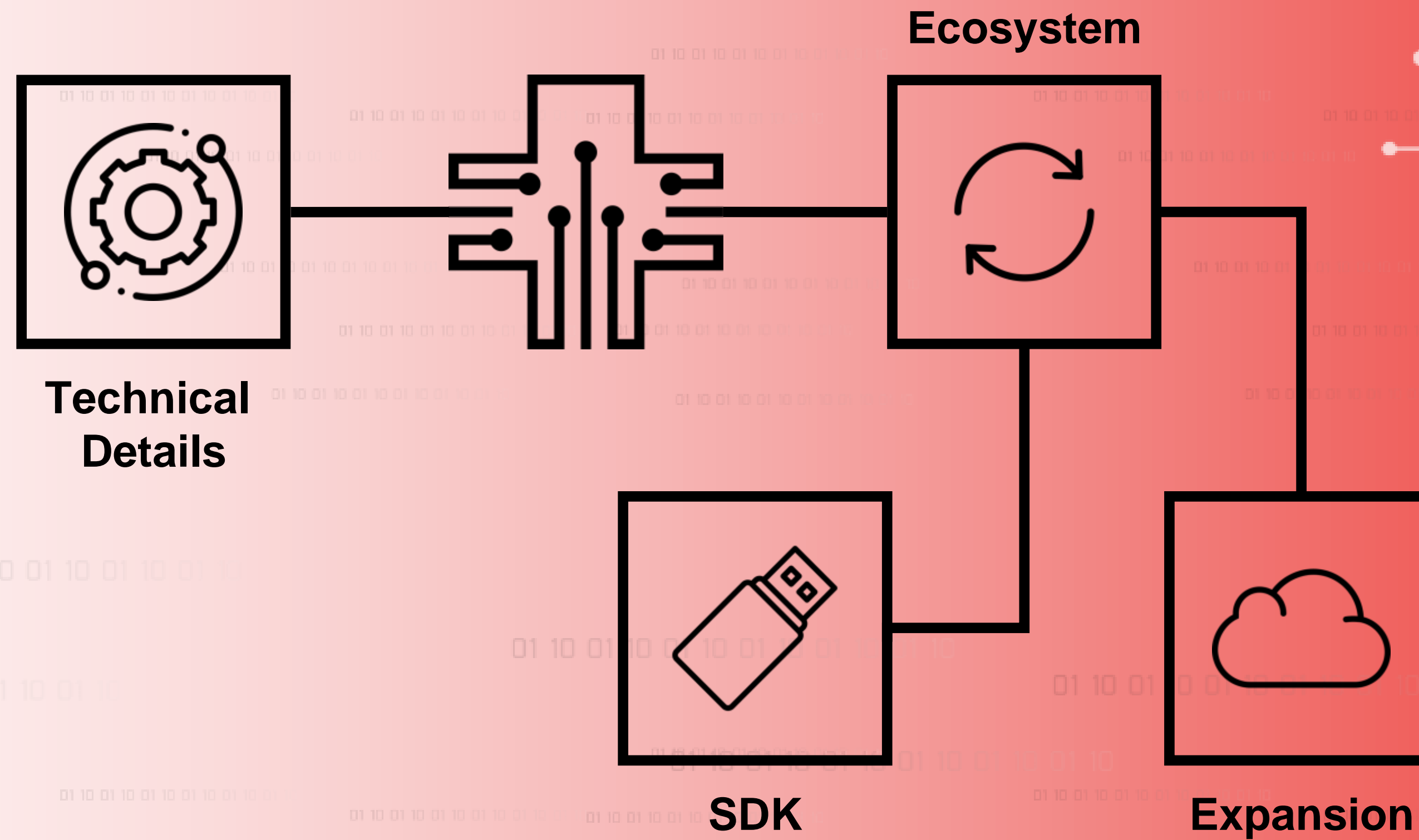


RCoS+ Library

Software libraries, common to all of the products

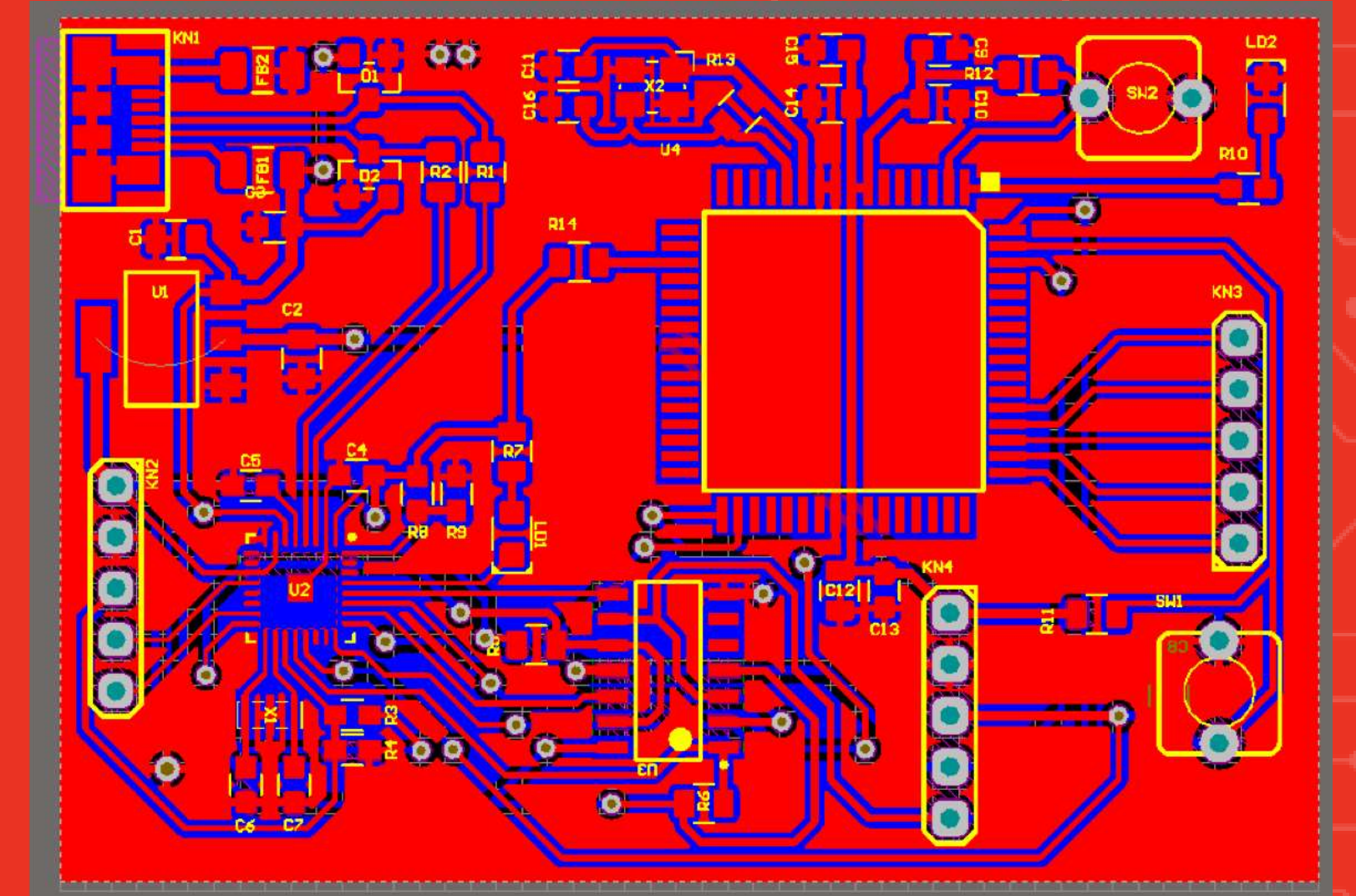
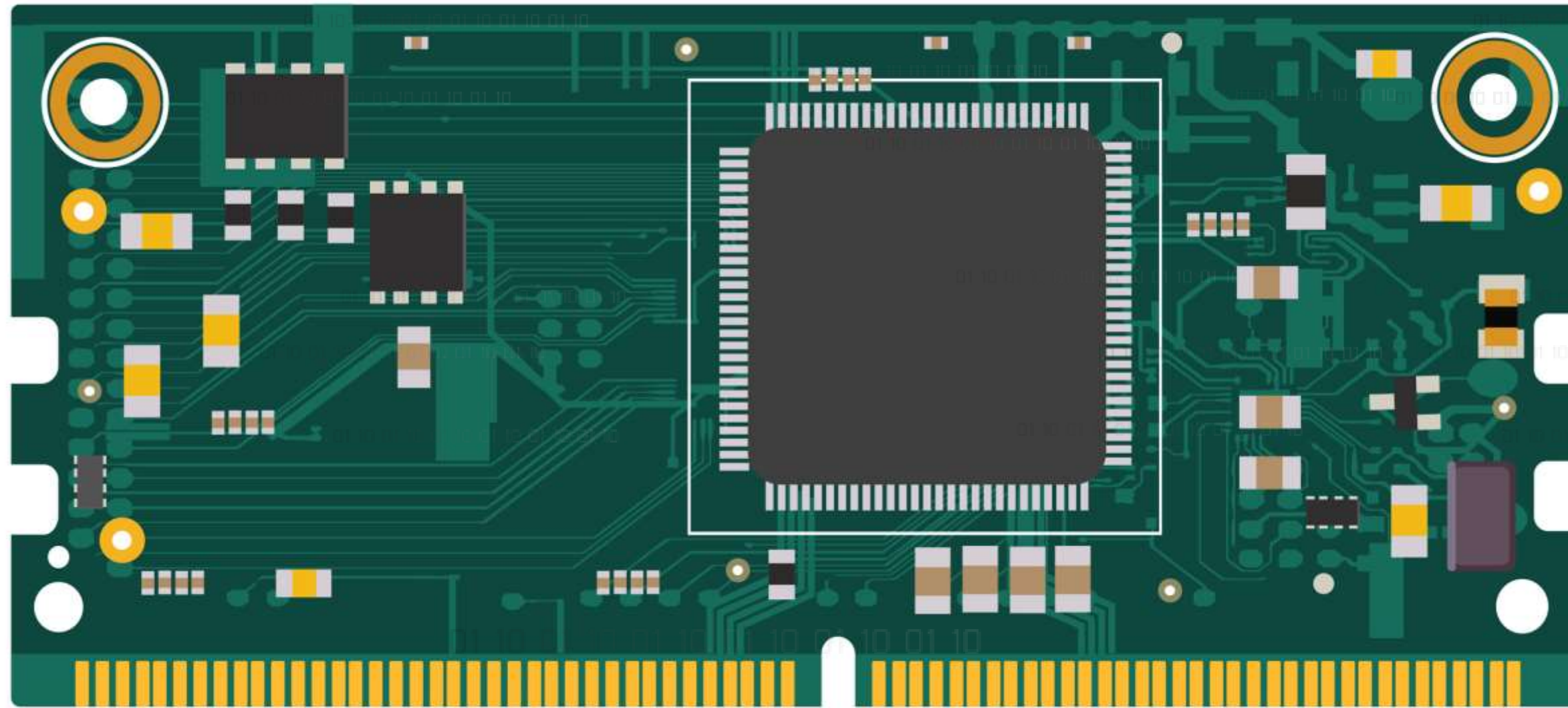


HOW?



Ecosystem > SDK

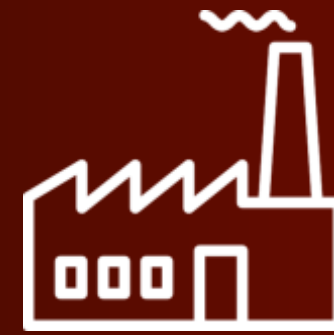
Software Development Kit



You Can Check Through Our [Rcos-sdk.com](https://rcos-sdk.com) Address Technical Data And Videos.

Ecosystem > Expansion

And we also spread our products with
3rd party design houses (such as Delta, Karel, etc.)



**Arçelik
Factories**

(Arçelik's working Factories:
Washer, dryer, oven, etc.)



Colleges



Starts Up



**Technical
Schools**

Arçelik A.Ş.

RoS+



Step-by-step Convenience

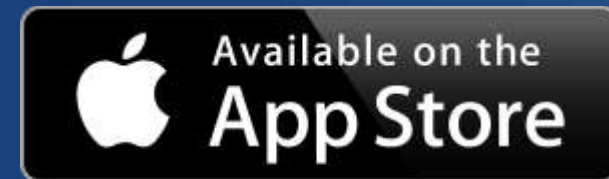
1. Easy adaptation for HW changes
2. Easy to add new features
3. Easy to inherit new products
4. Easy maintenance
5. Reliable SW components





Unending Journey

RCoS will keep updating itself,
just like the new softwares of





Roadmap

Arçelik A.Ş.



Secure RCoS+ Design

RCoS+ 1.0

2018

**RCoS+ 2.0
+ PROLOGUE**

2019

2.4" TFT ARM
CortexM4 libraries

**RCoS+ 3.0
+BEYOND**

2020

ClassB RCoS+
Design

RCoS+4.0

2021





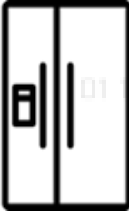

ClassB RCoS+
Approval



Our Products So Far

Arçelik A.Ş.

RCoS+1.0

	Dishwasher	Dryer	Washer	Oven	Fridge	Coffee Machine
						
Display	E8P Wifi E8P Ble C5P C6P GMP	Obiwan	B13 BEST Wifi B13 BEST Ble GOOD++			TelveDuo
Mainboard	Portal	Juno	Voltran*	Amazon	Ux20	TelveDuo



RCoS 2.0

Arçelik A.Ş.

Details On Software Design



1.

CODING CONVENTION

Creating the rules of encoding
Trackable and easy-to-understand
codes

2.

CODE REUSE

The reuse of the enhanced codes
in new projects

3.

LIBRARY

A library that contains all the previous
projects

4.

MODULAR PROGRAMMING

Code parts with interfaces that are
easily addible and extractible to
/from the main code.

5.

ABSTRACTION

Concealing the sub properties
of the modules.

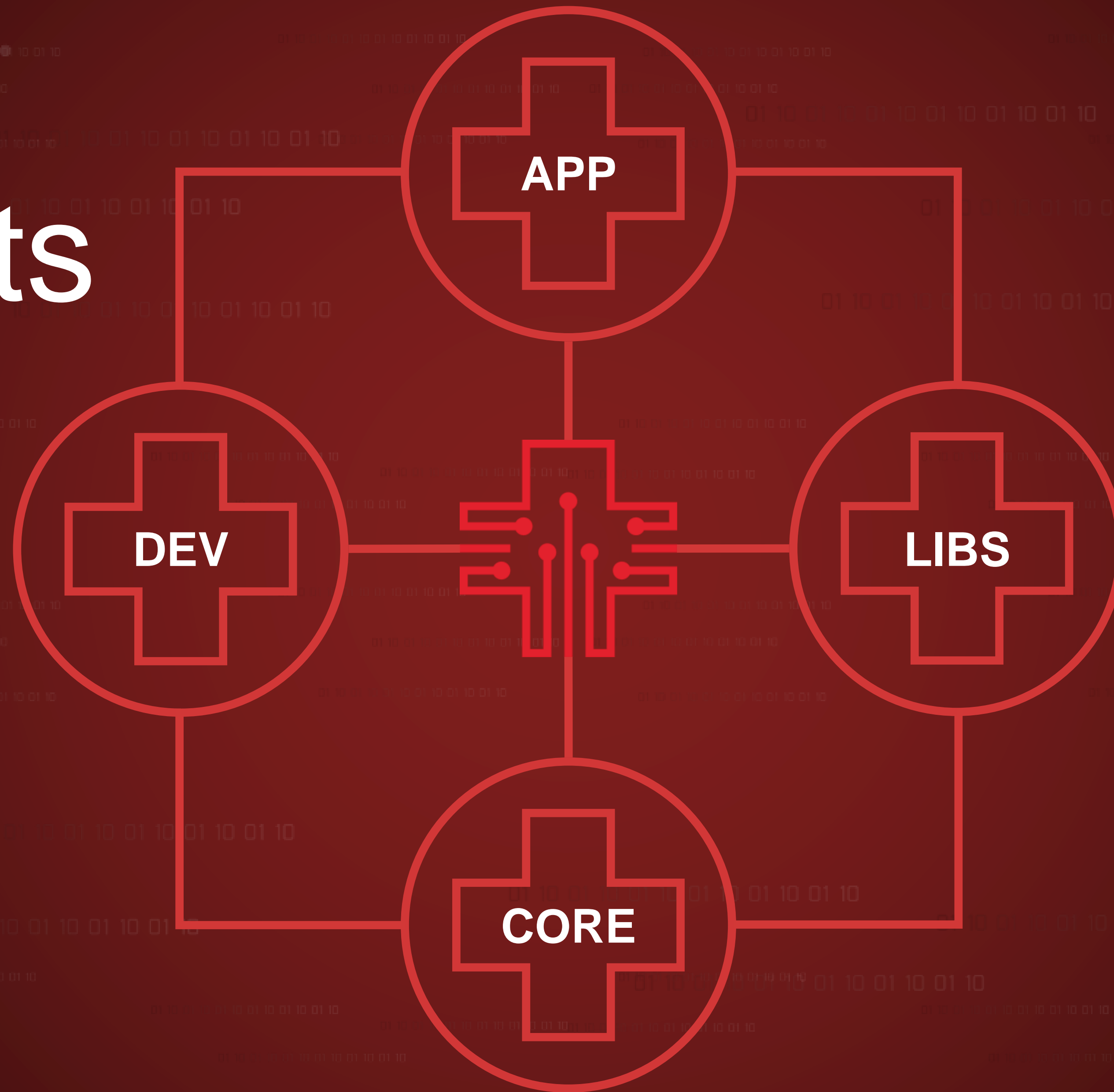
6.

LAYERING

The functional and hierarchical
dismantling of the code



Products





1.LIBS

- + Bit manipulation functions
- + Cyclic Redundancy Check (CRC-8-MAXIM and CRC-16-CCITT) functions
- + Debug Log macros
- + Double Ended Queue structures and functions
- + Hamming Code functions
- + Doubly Linked List structures and functions
- + Macros intended to produce automated versions
- + Ticket system macros

What's New?

Easy-to-use macros
New functions for
faster programming



2.CORE

Watchdog Timer:

Flag control mechanism for WDT refreshing process

Process:

Basic infrastructure with Cooperative Multi-Tasking specialty

Events:

Infrastructure for the communication between processes

Timers:

Software-free Timer functions working on 1ms resolution

What's New?

More control

More user-friendly

Faster operating system



3.DEV

*Infrastructures for abstract device identifications
Basic functions and object structures are completed for four different device types.*

DEV_IO

Input and output devices are units providing spontaneous data input and/or data output.

DEV_COM

Communication devices are units that connect physically and/or logically with peripheral units.

DEV_MEM

Memory devices are units that are used to store data.

DEV_CPX

Complex devices are units that are not compatible with neither of the three device categories and / or they have specific particularities.

What's New?

A common framework for all systems is the key, so with these DEV structures, you'll be able to operate in any device, without having the need to manipulate the program every time you make a change.



4.APP

Enhanced Applications Library

While creating a project, one can easily add any of these applications to the project and the applications that meet required properties fast enough, can be operated.

- + Udaq
- + Serial Communication
- + Data Linker
- + Backup
- + Multi Chart
- + Uart Echo

What's New?

With all these new features, you can create and operate a new project with ease.



+Security

Arçelik A.Ş.



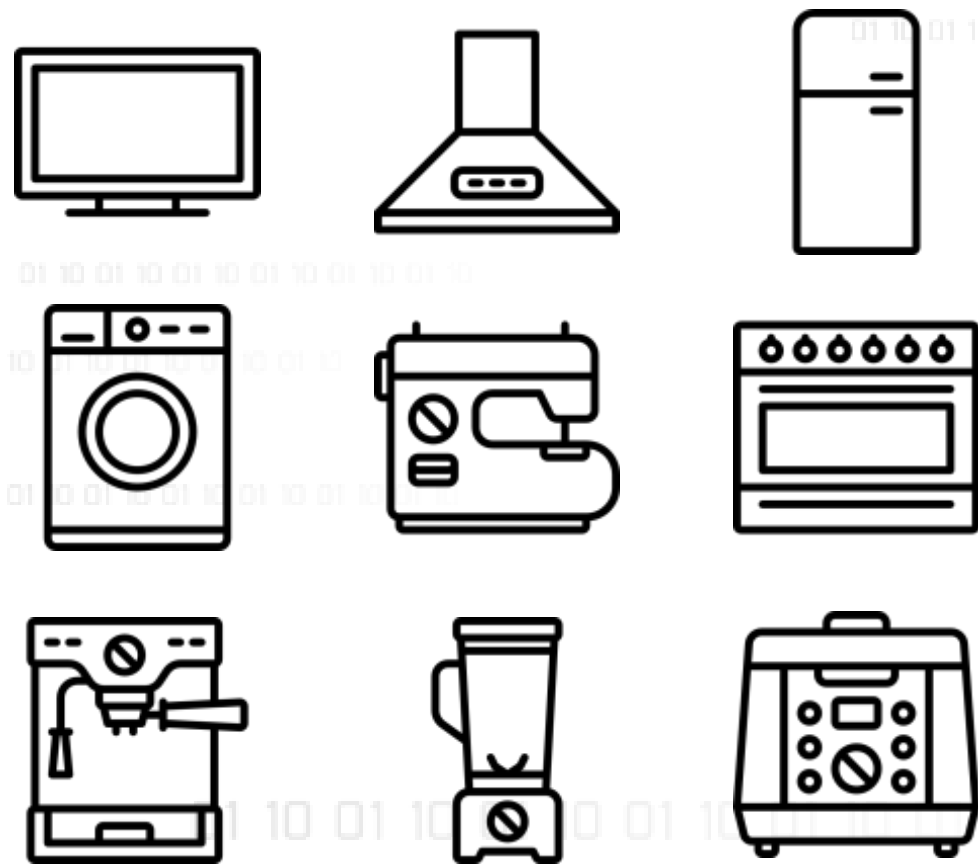
THE IMPORTANCE OF SECURITY

Arçelik A.Ş.



Linked, Connected Products

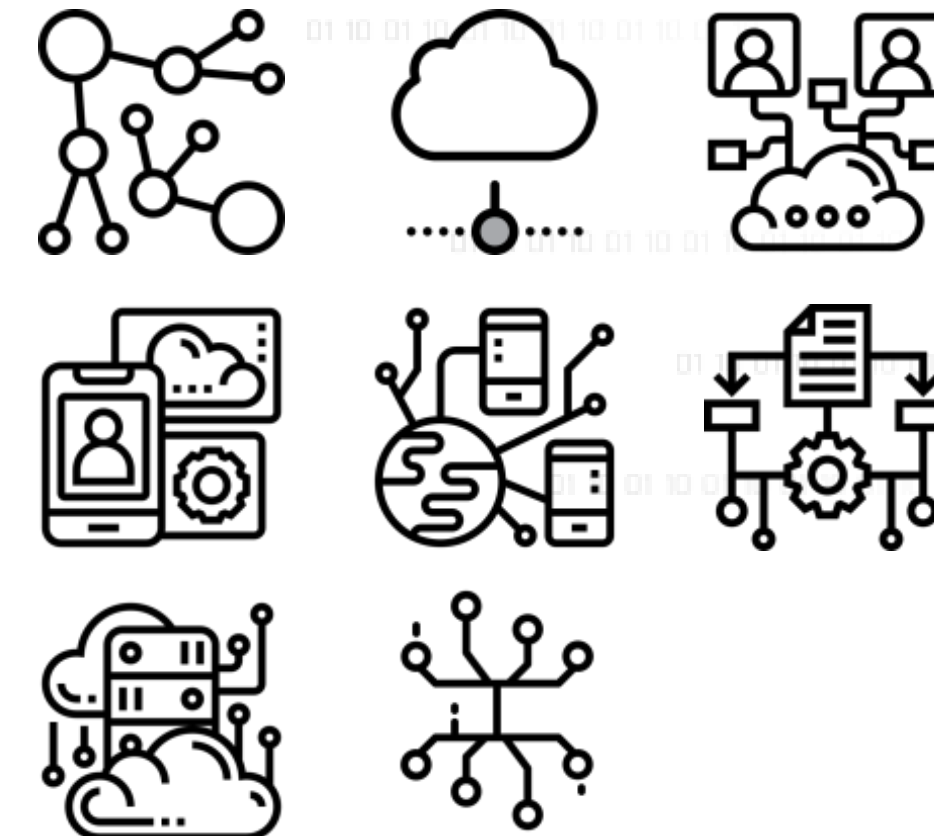
Products



Technology

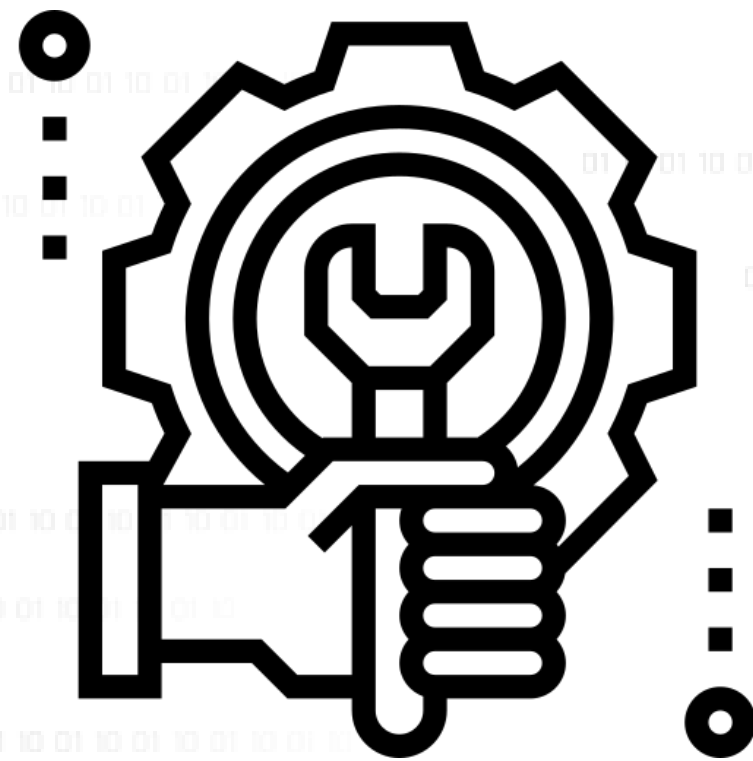


Future

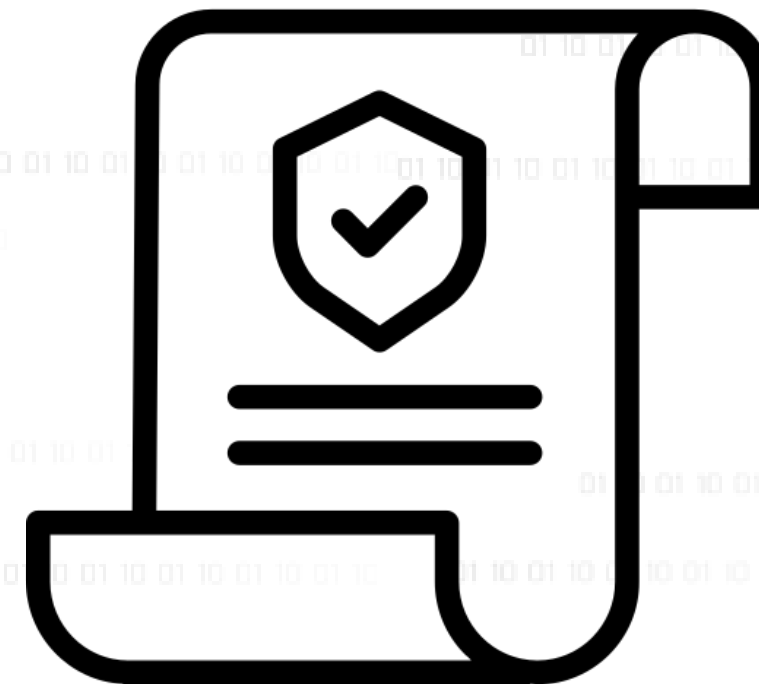




Short Term Solutions

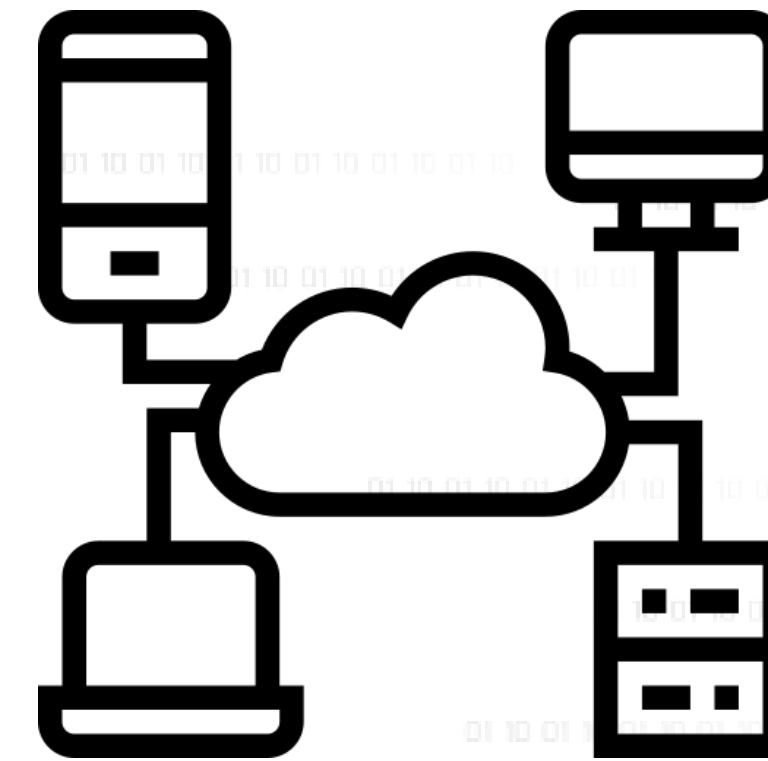


After Sales



Use Cases

Download new program
Custom program
OTA



Interoperability

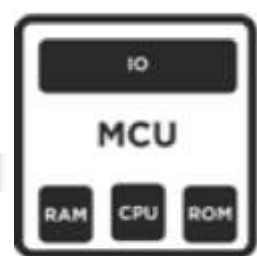
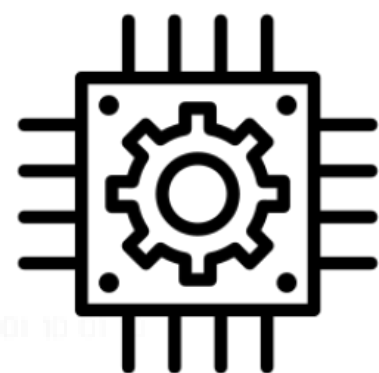


Challenges of IoT

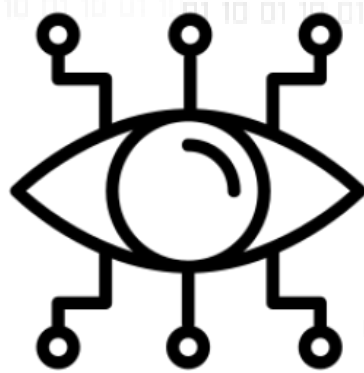
Arçelik A.Ş.



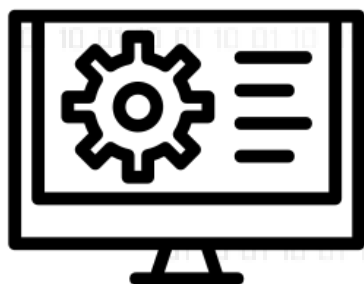
Resource Constrained
Microcontrollers



Complexity



Human
Resources



embedded
vs
IT

With **ROS**

**By assembling different software
of each product under the same roof;**

- + We shorten the process of software development
- + We lower the number of mistakes to a minimum
- + We avoid the software disorder
- + We ease the managing
- + We strengthen the infrastructure of security systems





Standards & Certifications

Arçelik A.Ş.



Standards & Certifications



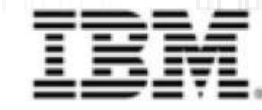


AWARDS

Arçelik A.Ş.



AWARDS



AWARDS



announced as the inaugural IoT Security Champion Award winner





Thank You

Arçelik A.Ş.

Arçelik A.Ş.

ROS

