

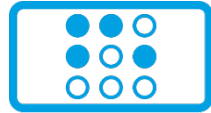


iRidium pro

Capabilities for Industrial Use

SHORT, EN, 27-04-2016

iRidium pro is an **IoT platform** consisting of:



iRidium *pro*



iRidium
Server

Protocol for control of:
IoT devices
databases
multimedia data

Toolkit for :
GUI creation
creation of driver modules
automation buildings/processes

Universal controller for
IoT automation
use of the intellectual gateway
function for different protocols

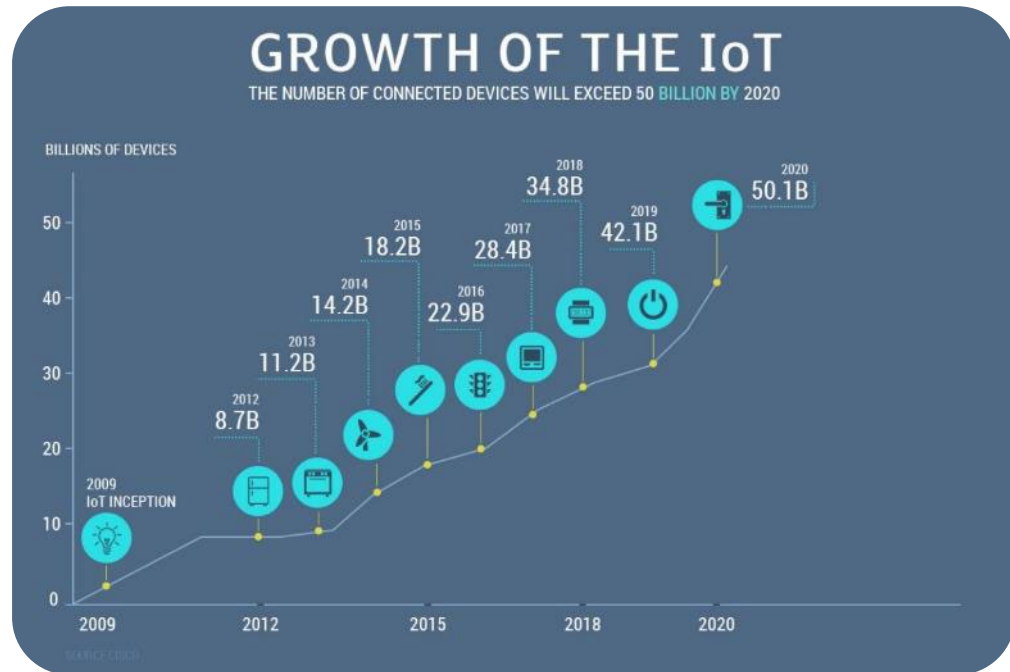
IoT in Industry

Short Introduction



iRidium
mobile

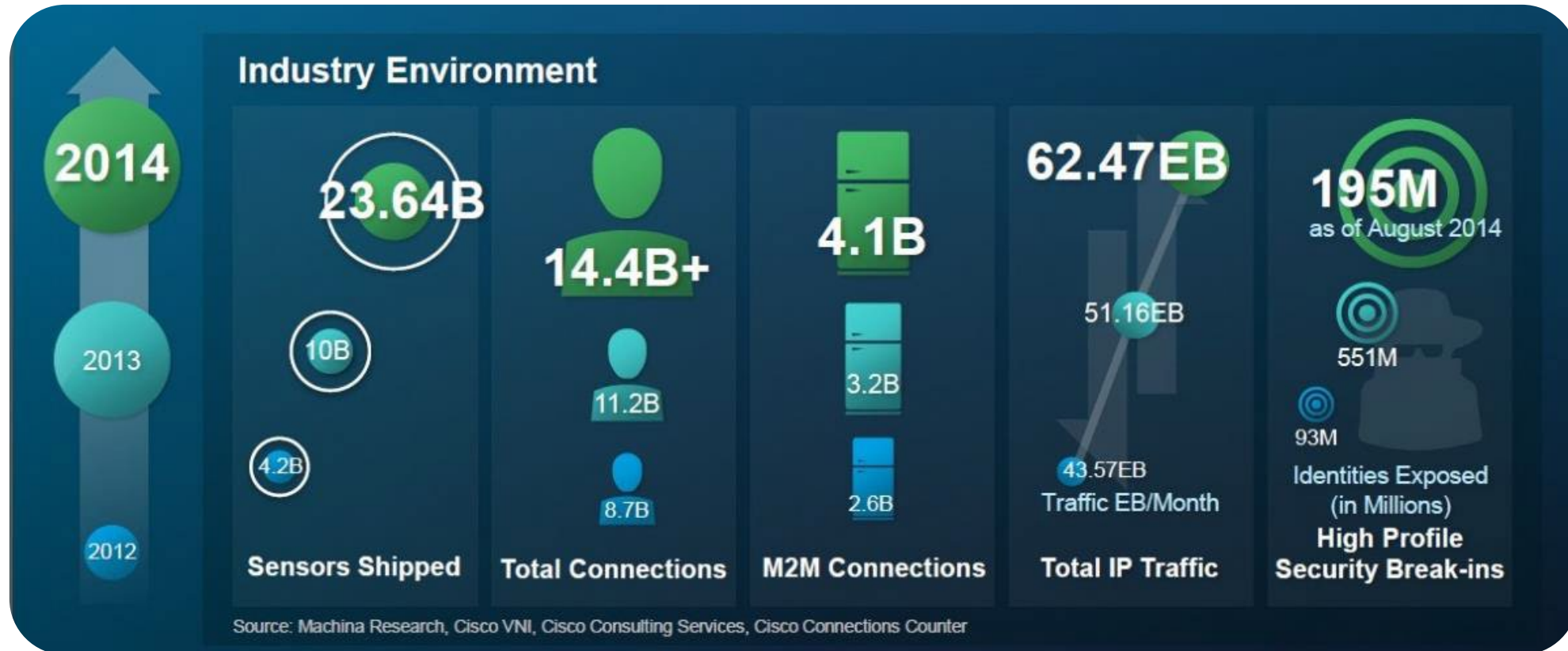
What Is Going On?



The main industrial trends

- **Fast growth of sensors used**
- **Remote communication**
- **Automation**

Trend of 2012-2014 Continues



What Is It For?



Main advantages

- **Resource saving**
- **Cost saving**
- **Efficiency improving**

What Holds the Process back in Russia?

Some problems

- **High costs**
- **Diversity of standards**
- **Few domestic technologies**
- **Skilled specialists are required**
- **Insecurity of communications**

iRidium is created to solve these problems

Use of iRidium Platform

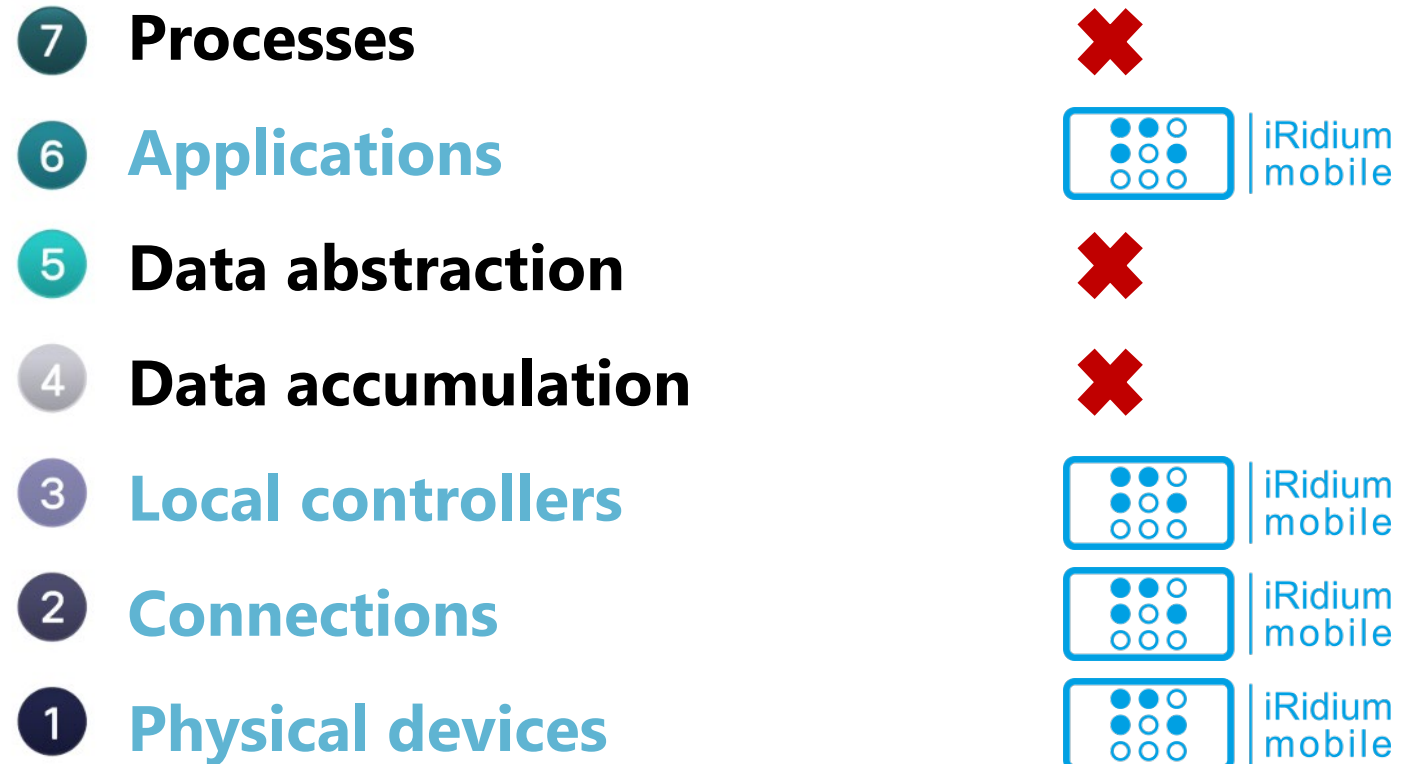
For Industrial Tasks



iRidium
mobile

Multilevel IoT Model (Cisco)

IoT levels

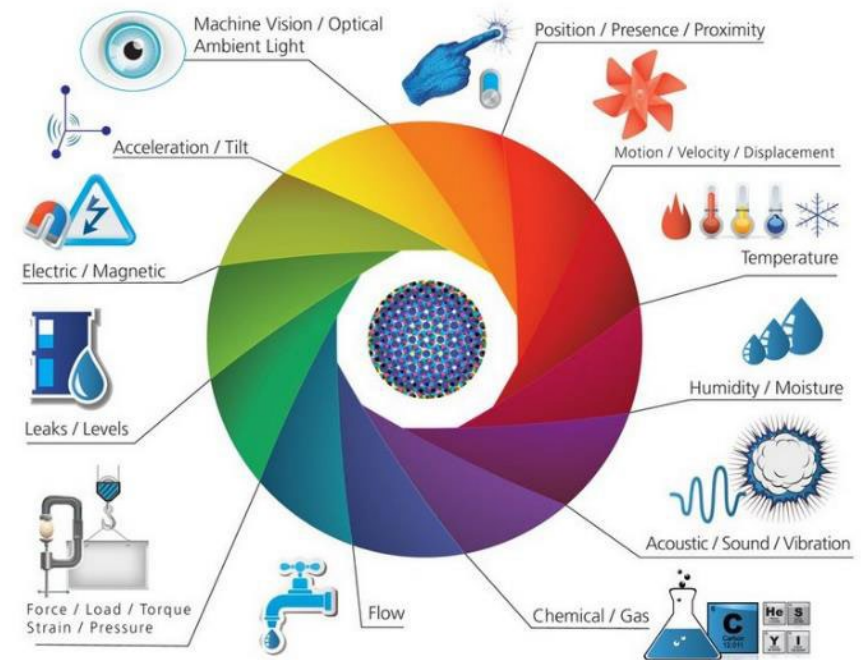


Level of Physical Devices

iRidium can be used with IoT devices

- **iRidium firmware for different chips: ATmega328, STN32, ESP8266, etc.**
- **Setting up via iRidium Studio**

Negotiations with several equipment manufacturers in Russia are being held.



Level of Connections

iRidium for communication between IoT devices

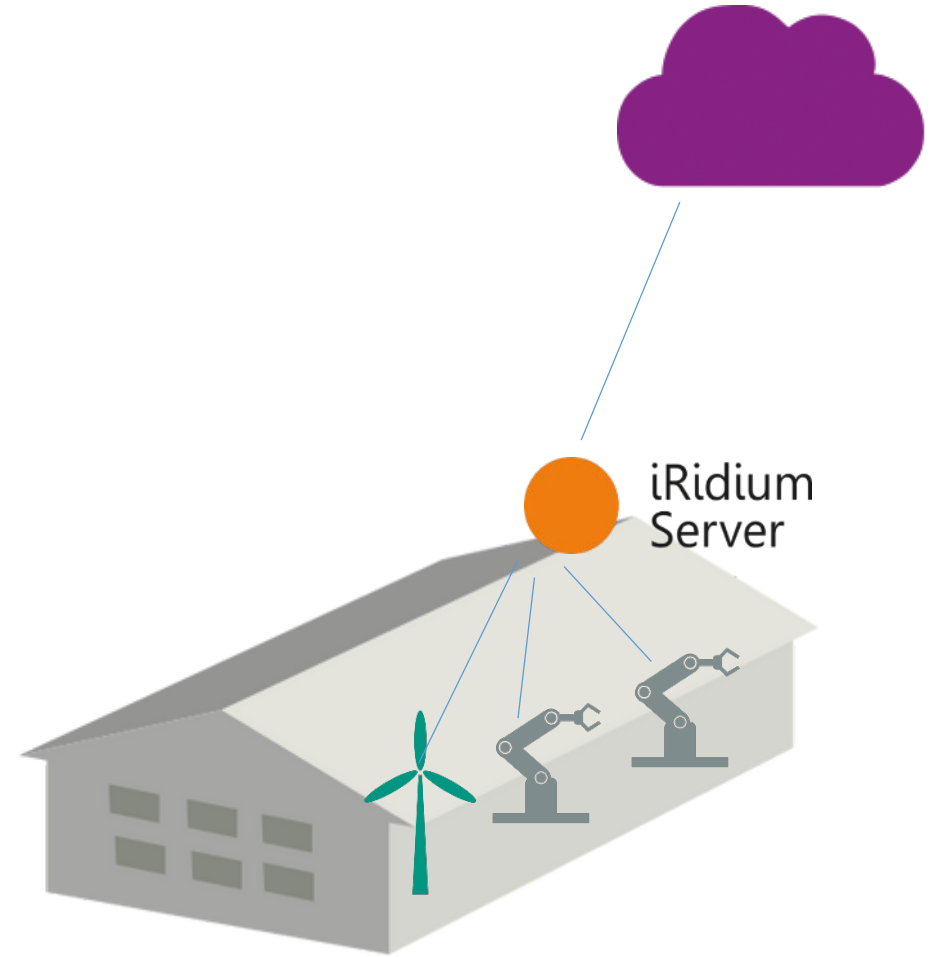
- **iRidium protocol for communication between devices**
- **Encoding on the level of communication**
- **Independence from the communication environment: CAN, Ethernet, RS485, etc.**



Level of Local Controllers

iRidium implements the Edge/Fog computing approach

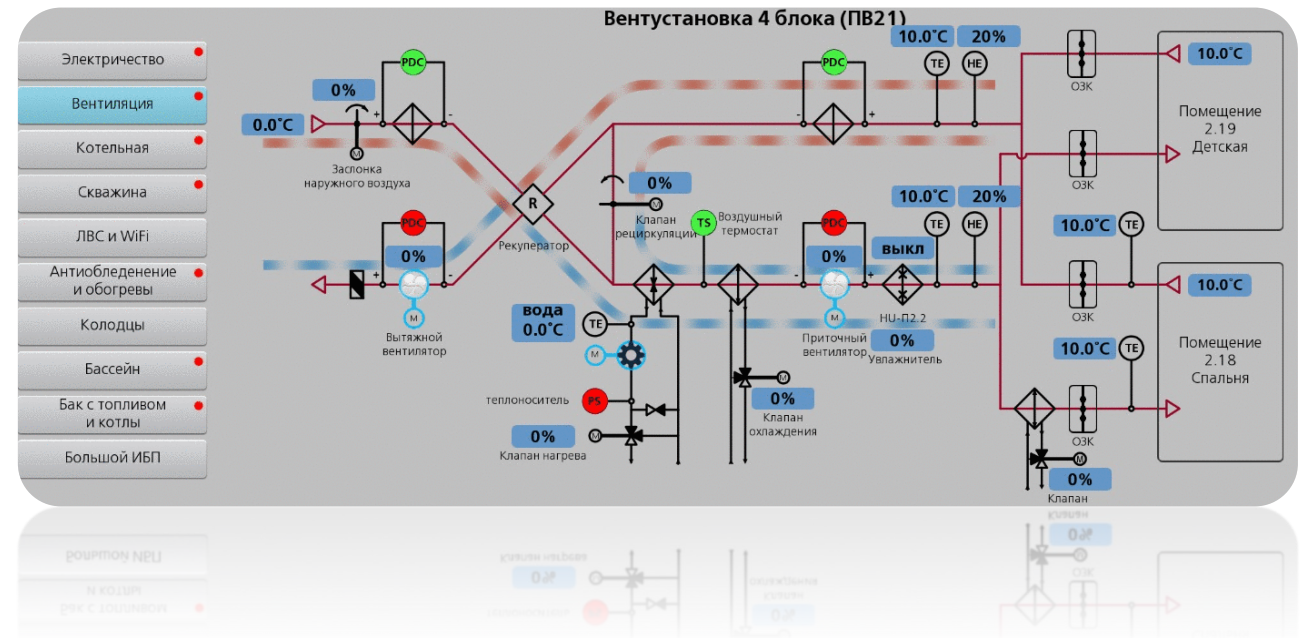
- **iRidium Server as a universal automation controller on the object**
- **iRidium Server as a universal gateway for multiprotocol system**



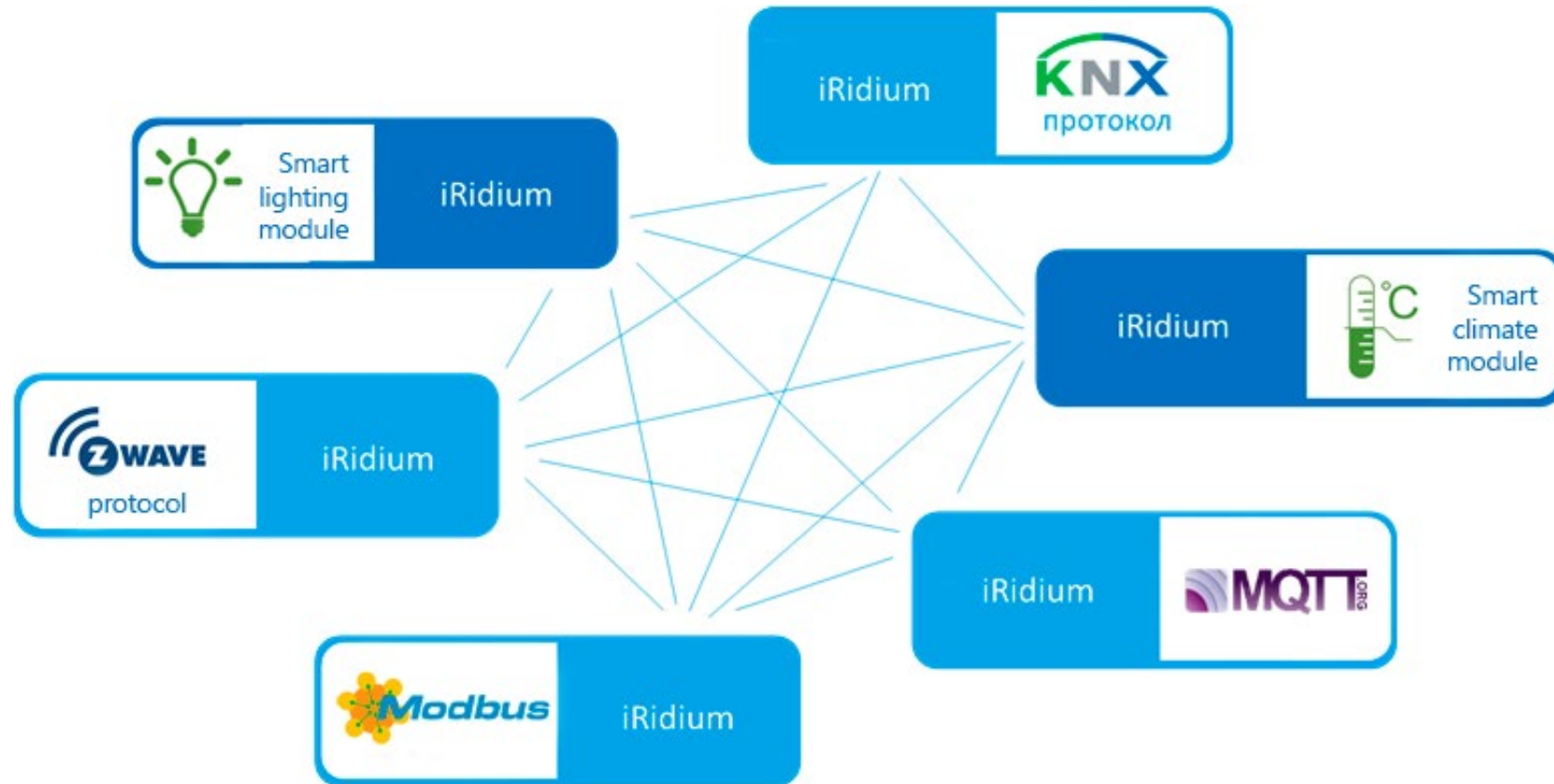
Level of Applications

iRidium provides a toolkit for creation of IoT applications

- **GUI interfaces for main operating systems**
- **Generation of trends/graphs**
- **Drag'n'drop is used in 80% of functions instead of programming**



Compatibility of iRidium pro: Any Open API



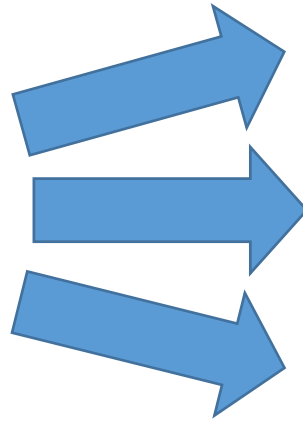
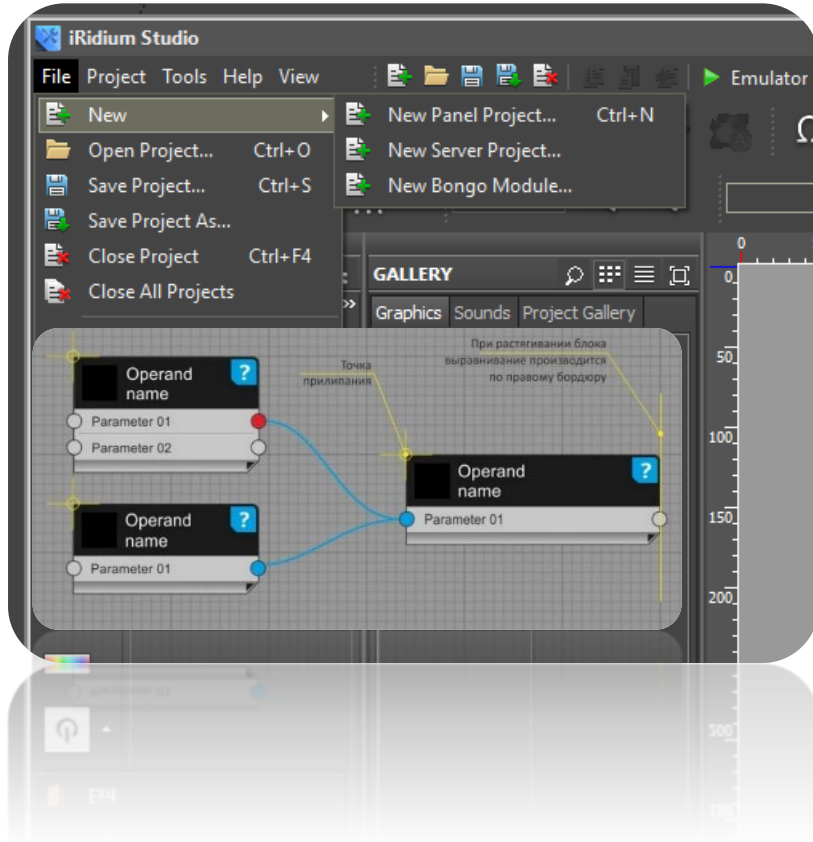
Platform Components

iRidium Products



iRidium
mobile

Tool #1: iRidium Studio for PC



1. Create custom graphic interfaces for iOS/Windows/Android/OSX
2. Create logic for communication for the controller - iRidium Server
3. Create modules for the cloud iRidium Store

Drag'n'drop or Free JS Programming

The screenshot displays a control interface for an office environment, divided into two main sections: OFFICE CONTROL and OFFICE SCENARIOS. The OFFICE CONTROL section includes controls for Lamp light #1, Lamp light #2, DIMMER LIGHT #1 (with a slider and '\$V%' label), and three Displays (#1, #2, #3). The OFFICE SCENARIOS section lists various preset scenarios such as Warning - Block all, Night - Door Close, Lunch Time, Working Day - Door Open, Weekend - Switch Off All, Holidays - Economy Energy, Summer - Condition On, and Winter - Underfloor Heating. On the right, a 'Drivers' panel shows a tree view for a 'KNX IP Router' with a list of 'Commands' including S1_1 Switch, S1_1 Status, W1_1 Move, W1_1 Stop, W1_1 Position, W1_1 Status, S1_2 Switch, S1_2 Status, S1_3 Switch, S1_3 Status, S1_2+S1_3 Switch, S1_2+S1_3 Status, JA1_1 Move, and JA1_1 Stop. Below the tree is a 'PROPERTIES' table for the selected driver.

| PROPERTIES | |
|-------------------------|----------------|
| Name | KNX IP Router |
| Driver Type | KNX (UDP) |
| Background Mode | False |
| Local Connection | |
| Host | 192.168.10.112 |

Tool #2: iRidium app for iOS/Android, etc.



Ready GUI configuration is sent to the native application for the selected operating system

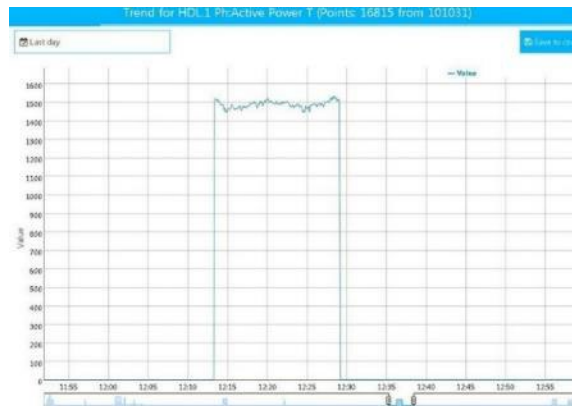
Tool #3: iRidium Server for Win/Linux



Freely programmable multiplatform controller

Support of main communication protocols with devices and cloud services

Storage of configuration, communication logic, scenes and schedules. Connection with the cloud. Generation of trends, etc.



Tool #4: iRidium Protocol

| Used communication environment | Way of network construction | Way of notification | Protocol license type | Authorization | Encoding of transmitted data | Data transfer format | Equipment variety | Complexity of setting and programming (1-easy, 5-complex) | Complexity of implementation (1-easy, 5-complex) | Error control |
|--------------------------------|-----------------------------|---------------------|-----------------------|---------------|------------------------------|----------------------|-------------------------------|---|--|----------------------------|
| TCP/IP, UDP, RS232/485 | Combined | By subscription | Closed | Yes | Yes | Binary | Expandable due to programming | 3 | 5 | Identifier of transactions |

- Proprietary protocol
- Speed is limited only by the communication environment
- Encoding on the communication level (8 types)
- Work with engineer and multimedia systems
- Transfer of databases

iRidium Advantages

The main ones:

- **Potential compatibility with all Industrial IoT standards**
- **De-skilling effect for specialists**
- **Potentially unlimited functions of solutions**



iRidium Is Actively Used by Professionals Around the World



- Building control
- Smart Home control
- AV installations
- Yachts
- Offices
- Hotels
- Banks
-



Burj Al Arab, UAE



Rabobank, Netherlands



Linglongtiandi, 332 apartments

iRidium Today

42

Team members

70

Countries of distribution

2320

Certified specialists

1300

iRidium projects per year

Partnership with leading associations and manufacturers



www.iridiummobile.net

iRidium *pro*
iRidium *lite*



iRidium
Studio



iRidium
Store



iRidium
Cloud



iRidium
Server