



Jakarta, 18 November 2022

No : U/UBL/FTK/000/016/11/22
Hal : Undangan
Lamp : 1 Lembar

Yth.

Bapak M.Febriansyah
Di Tempat

Dengan Hormat,

Berkaitan dengan adanya kegiatan Enjoyneering Fair 2022 dengan tema "**Innovation Towards Advanced Technology**" yang diselenggarakan oleh Fakultas Teknik Universitas Budi Luhur pada :

Hari / Tanggal : Rabu, 23 November 2022
Waktu : 09:00 – 12:00 WIB
Tempat : Gedung Auditorium Grha Mahardika Bujana Universitas Budi Luhur

Maka kami selaku penyelenggara bermaksud mengundang Bapak untuk menjadi Pembicara tentang inovasi bidang teknologi dalam kegiatan tersebut.

Demikian surat undangan ini kami sampaikan, atas perhatian dan kerja samanya kami ucapkan terima kasih.

Hormat Kami,
Dekan Fakultas Teknik



Dr. Ir. Nazori AZ, M.T
NIP : 870021

Success Story
Lolos Beasiswa S2 LPDP



Dion Setiawan, S.T.

ENJOY-
ENGINEERING

FAIR
2022



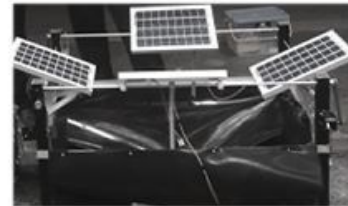
Oki Saputra, S.Ars
(Owner Tama Group)



FAIR



M. Febriansyah, M.T
(Co-Founder ArduMeka)



PKM Solartracker pembangkit listrik tenaga
surya sebagai kolektor air hujan



Karya Inovasi Dosen
& Mahasiswa

Kamar pintar sebagai
ruang isolasi mandiri



PKM Solartracker

Sesi 1 (Pembicara 1 dan 2):
Moderator: Sri Kurniasih, S.T., M.Ars

Sesi 2 (Karya dosen dan mahasiswa)
Moderator: Eka Purwa Laksana, S.T., M.T

“Innovation
Towards
Advanced
Technology”



Enjoyneering Fair 2022

INOVASI IoT PADA BIDANG PERTANIAN

Menggunakan **B** Blynk IoT

Curriculum Vitae



Nama

M. Febriansyah, ST., MT

Tempat Tanggal Lahir

Bengkulu, 28 Februari 1980

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PENDIDIKAN FORMAL

- ❖ Teknik Elektro, Fakultas Teknologi Industri
Institut Sains dan Teknologi Nasional (ISTN)
- ❖ Program Magister Teknik Elektro
Universitas Indonesia (UI)

KEGIATAN ORGANISASI

- Dosen Teknik Elektro, **Kampus Institut Sains dan Teknologi Nasional**
- Pembina UKM Mechatronica, **Kampus IBI Kosgoro 1957**
- Pengurus **KOMUNITAS ROBOTIKA INDONESIA**
penanggung jawab bidang : Pembinaan & Pengembangan
- Admin group **ArduMeka**

Apa itu Internet of Things (IoT)?

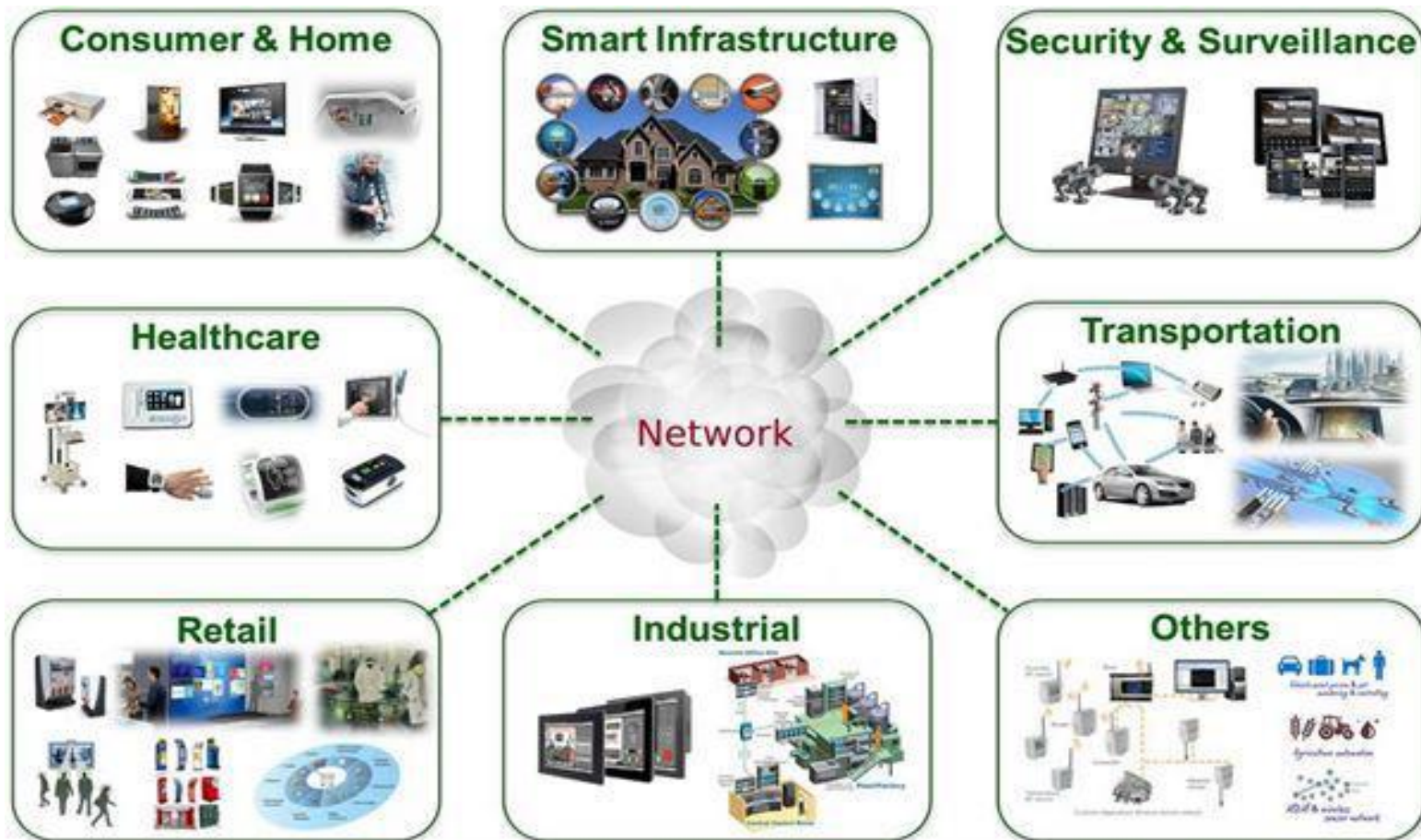


Internet of Things adalah suatu konsep penerapan teknologi informasi di mana objek atau perangkat dirancang (desain) untuk memiliki kemampuan mentransfer data informasi lewat jaringan internet tanpa perlu adanya campur tangan manusia

Internet of Things lebih sering disebut dengan singkatannya yaitu IoT. IoT terdiri atas dua bagian utama yaitu Internet yang mengatur konektivitas dan Things yang berarti objek atau perangkat

TUJUAN INTERNET OF THINGS

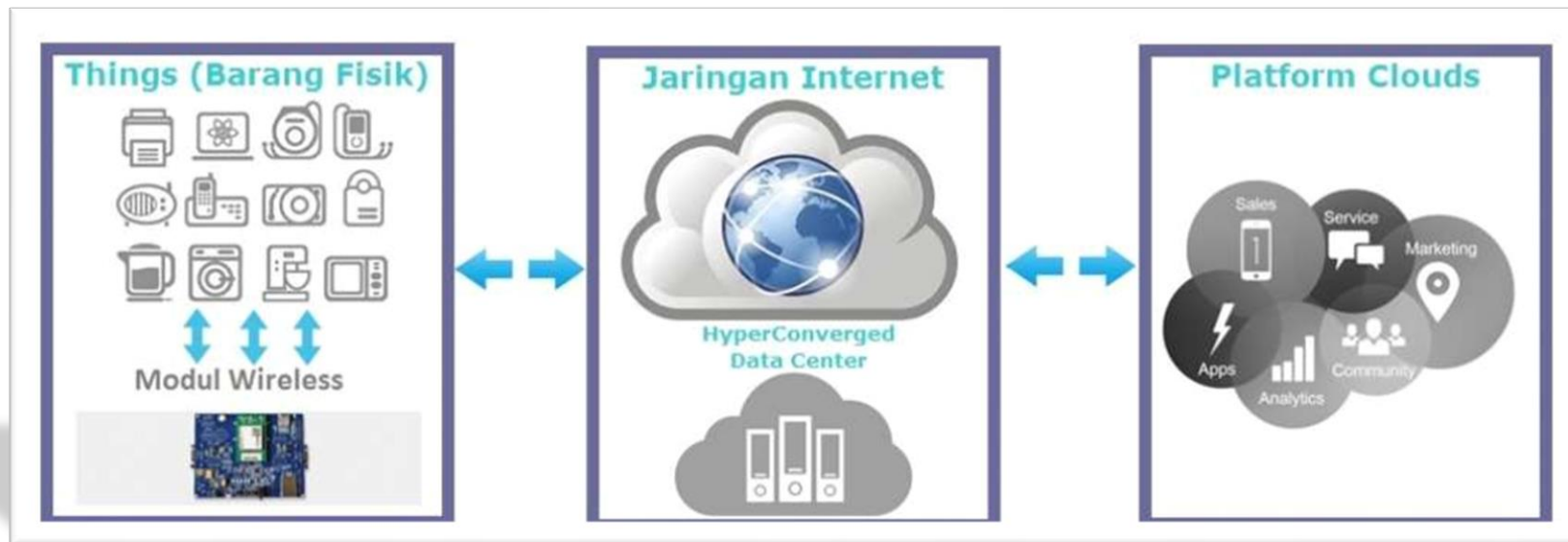
Untuk memperluas manfaat dari konektivitas internet yang tersambung secara terus-menerus.



CARA KERJA INTERNET OF THINGS

Konsep IoT ini sebetulnya cukup sederhana dengan cara kerja mengacu pada 3 elemen utama pada arsitekturnya, yaitu :

1. Barang Fisik (Things) yang dilengkapi modul *IoT*.
2. Perangkat Koneksi ke Internet seperti Modem dan Router Wireless seperti di rumah anda.
3. Cloud Data Center tempat untuk menyimpan aplikasi beserta data base.



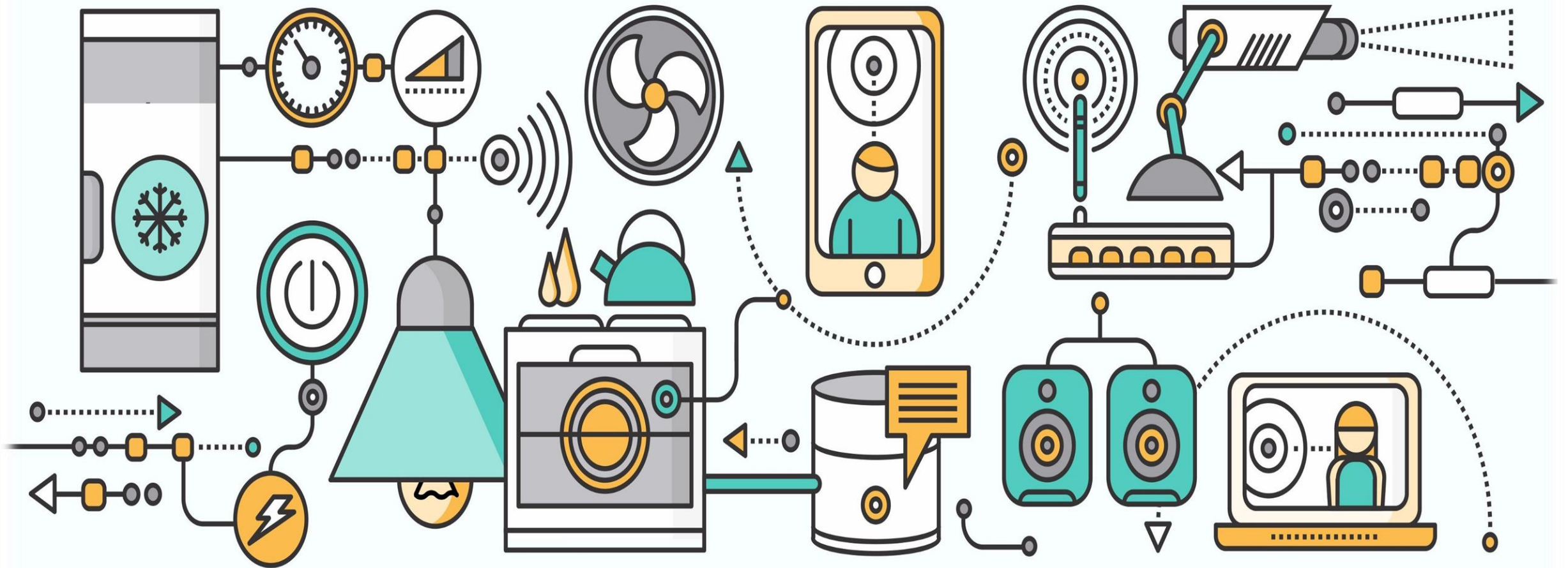
INOVASI PENERAPAN INTERNET OF THINGS

BIDANG PERTANIAN



INOVASI PENERAPAN INTERNET OF THINGS

BIDANG ENERGI



INOVASI PENERAPAN INTERNET OF THINGS

BIDANG MEDIK DAN KESEHATAN



INOVASI PENERAPAN INTERNET OF THINGS

BIDANG TRANSPORTASI



Internet of Things

PENERAPAN DI BIDANG LAINNYA

Smart Cities

Membantu kelola kota yang efektif melalui sensor secara real time



Smart Mall

Mendeteksi kehadiran pengunjung suatu mall



Smart Traffic

Menganalisa lalu lintas kendaraan bermotor di jalan



Retail

Memonitor pengiriman barang dan melihat tanggal kadaluarsa



Security & Emergencies

Mendeteksi radiasi dan gas-gas yang bias meledak



Smart Agriculture

Mendeteksi kelembaban tanah, udara, suhu untuk pertanian



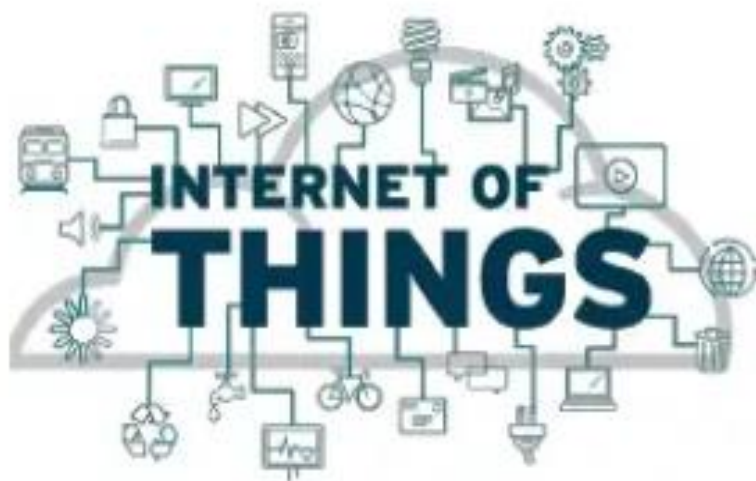
Home Automation

Memonitor penggunaan air, tv, pintu, jendela dan penyiram tanaman



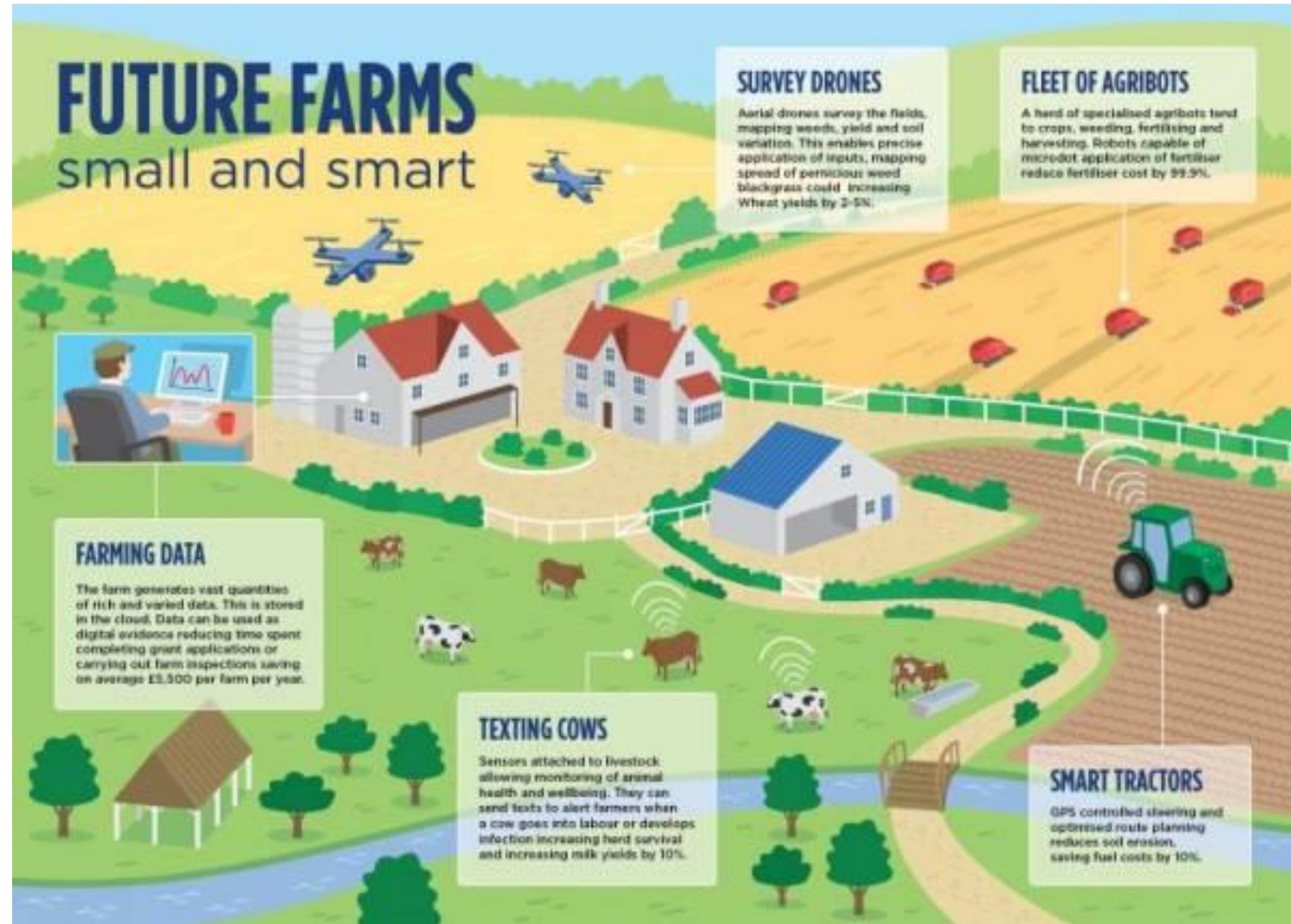
Smart Environment

Mendeteksi kebakaran hutan, polusi udara, deteksi dini gempa bumi/tsunami



SMART FARMING

Smart farming (pertanian pintar) yaitu penggunaan platform yang dikonektivitasikan dengan perangkat teknologi (ex : tablet & handphone) dalam pengumpulan informasi (ex : status hara tanah, kelembaban udara, kondisi cuaca, dsb) yang diperoleh di lapangan dari berbagai perangkat yang ditanamkan pada lahan pertanian.

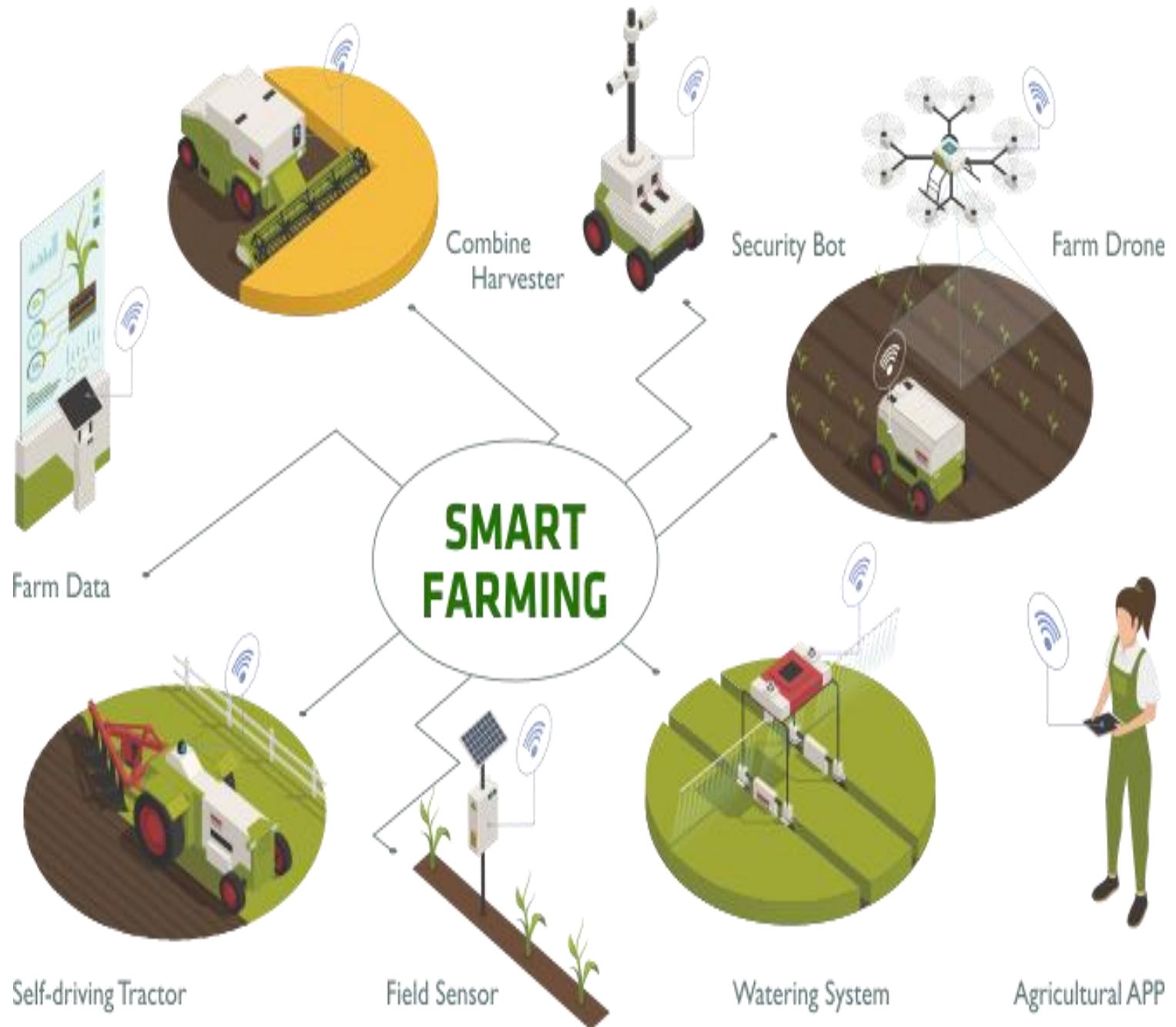


Mengapa Harus Smart Farming?

Keuntungan yang didapat dari **smart farming** adalah meningkatkan pendapatan dan keuntungan para petani dan meningkatkan kondisi sosial ekonomi masyarakat perdesaan serta meningkatkan tanaman dan biodiversitas serta konservasi air.

Mampu Menanggulangi Hama

Pengawasan jumlah hama dengan menggunakan Wireless Sensor Network (WSN) bisa menjadi solusi ke depan. Apabila sensor WSN mendeteksi jumlah hama pengganggu terlalu tinggi, maka informasi ini bisa tersampaikan pada sistem otomatis pengontrol hama untuk diambil tindakan. Ini bisa menggantikan penggunaan pestisida di beberapa kasus.



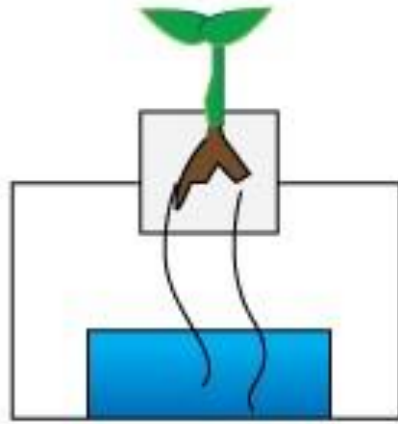
SISTEM HIDROPONIK

Hidroponik adalah budidaya tanam dengan memanfaatkan air tanpa menggunakan tanah dan menekankan pada pemenuhan kebutuhan nutrisi bagi tanaman.

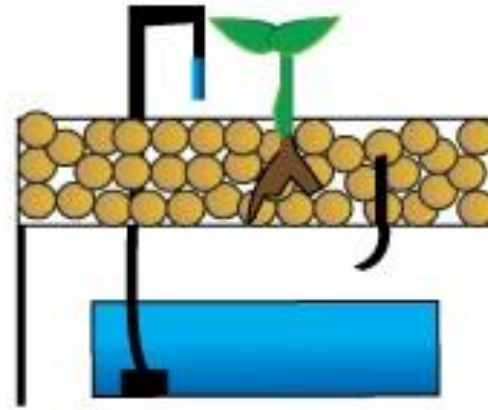


6 MACAM SISTEM HIDROPONIK

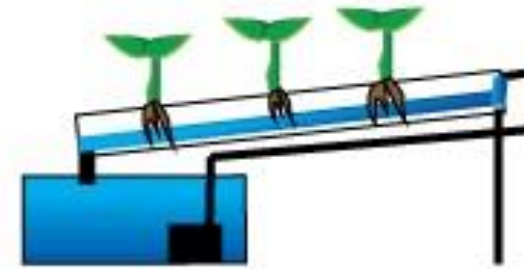
WICK



EBB & FLOW



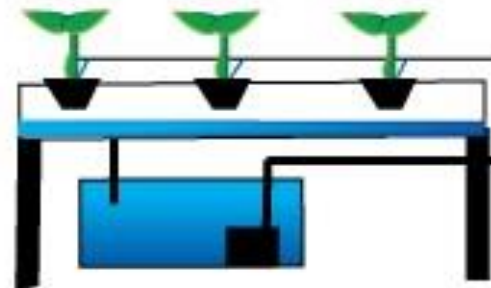
NFT



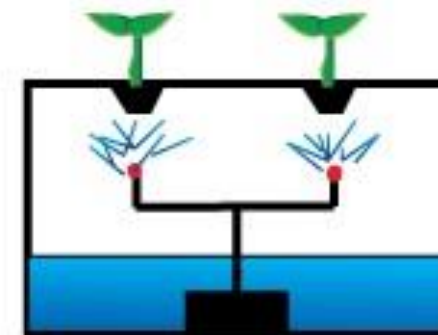
WATER CULTURE



DRIP



AEROPONIC





AGRICULTURAL SENSORS

Konsep manajemen pertanian berdasarkan pengamatan, pengukuran dan tanggapan terhadap variabilitas lahan terhadap tanaman untuk mendefinisikan sistem pendukung keputusan dalam pengelolaan secara keseluruhan dengan tujuan mengoptimalkan pengembalian input sambil melestarikan sumber daya.



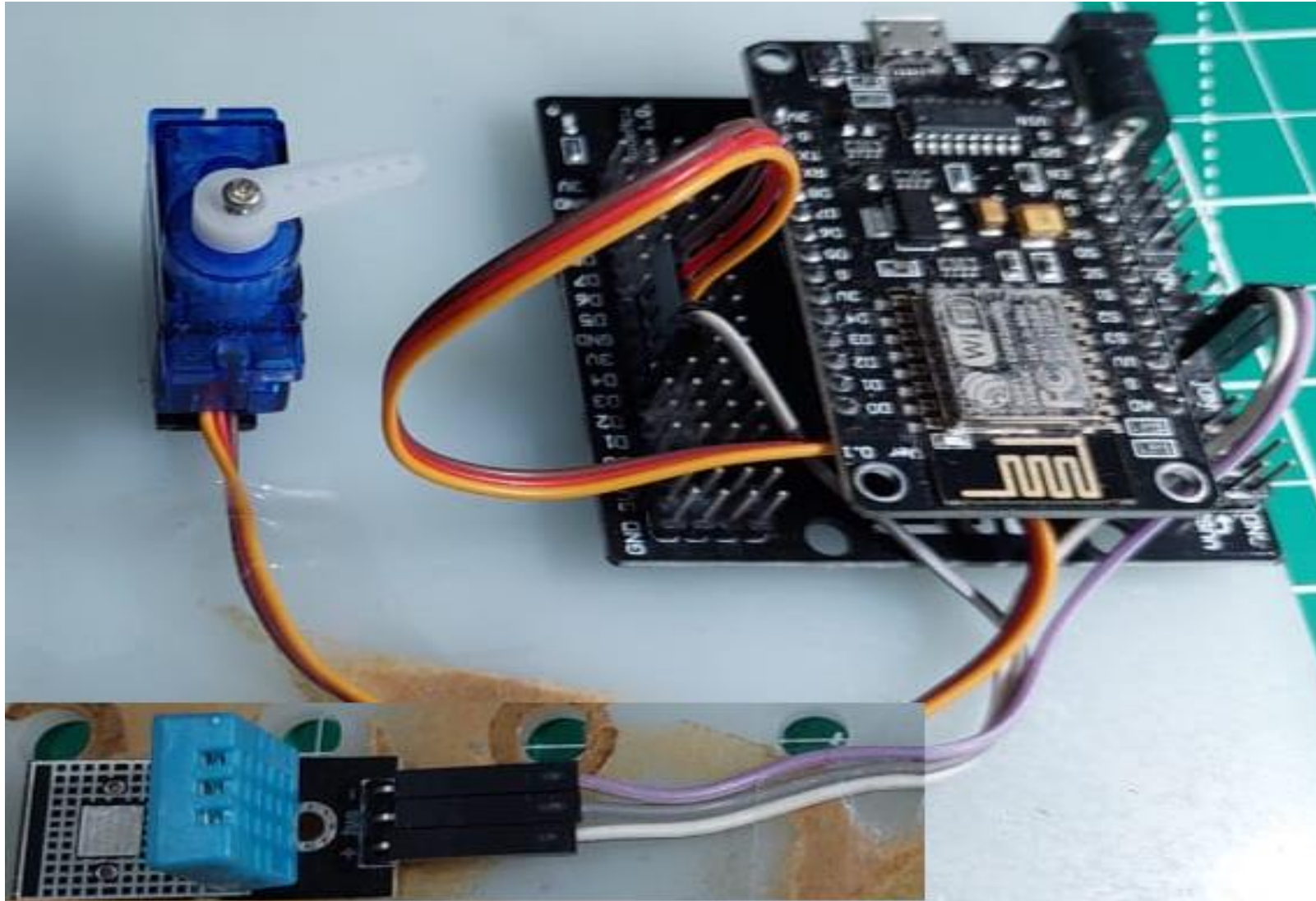
AUTONOMOUS TRACTORS

DRONES



Proses penerapan robotika, kontrol otomatis, dan kecerdasan buatan di semua tingkat produksi pertanian, termasuk peternakan dan Farmdrones

Aplikasi Smart Farming

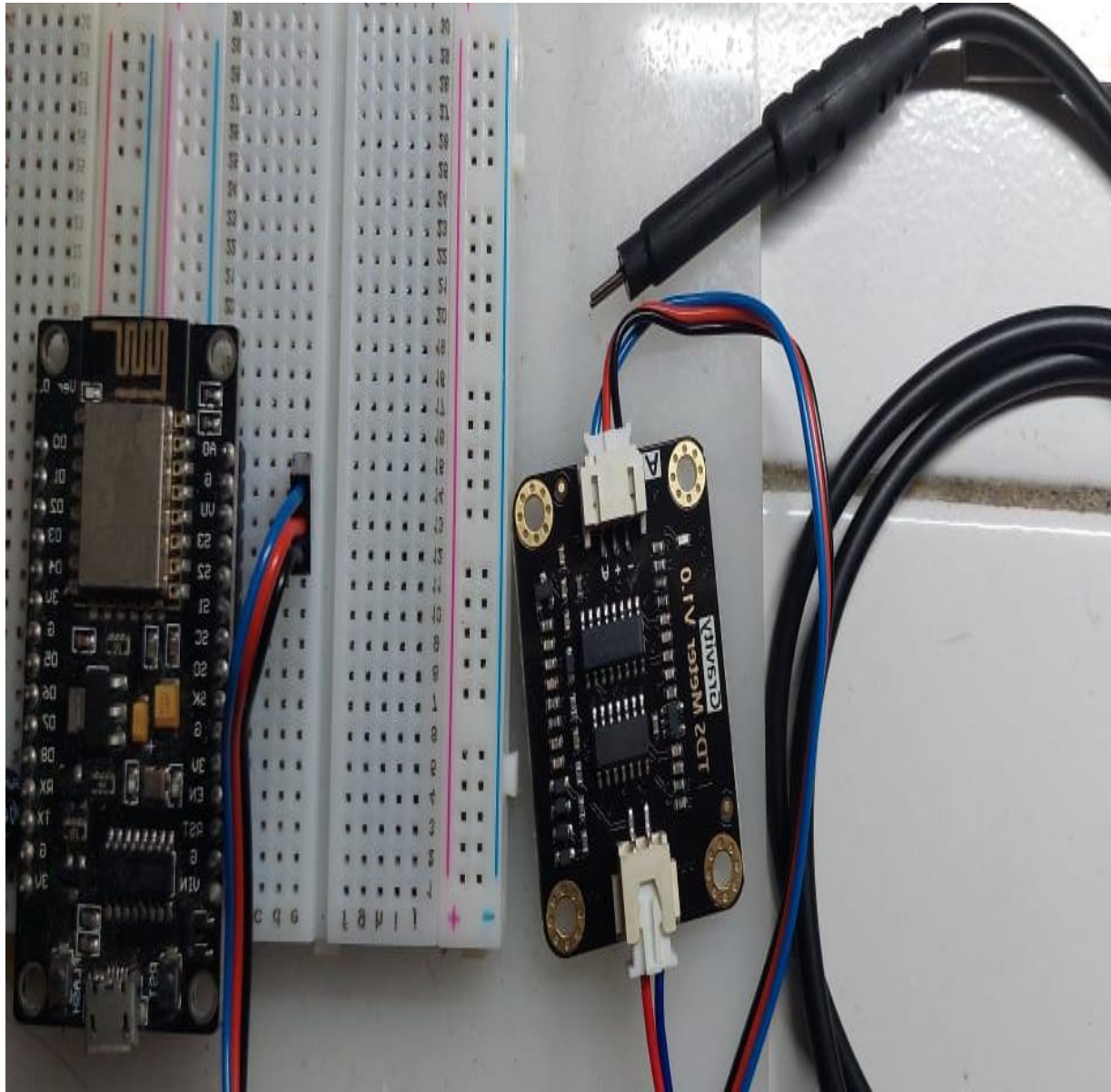


APLIKASI SENSOR DHT 11 + MOTOR SERVO

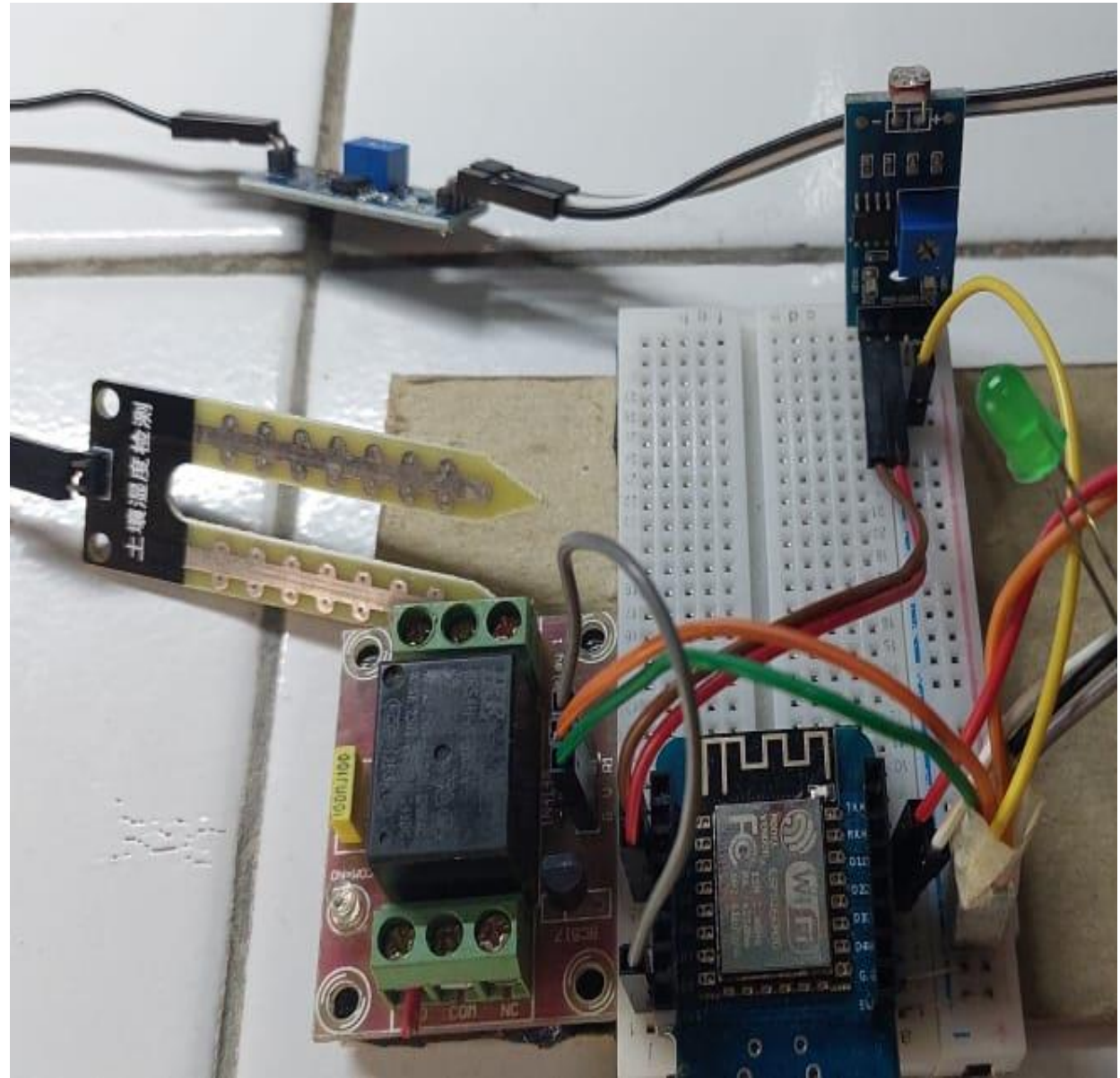


WIRELESS SENSOR NETWORK

Aplikasi Smart Farming



APLIKASI SENSOR DTS



APLIKASI SENSOR SOIL MOISTURE + LDR



Aplikasi Smart Farming





Enjoyneering Fair 2022

PENGENALAN PLATFORM

BLYNK IoT



Blynk IoT

Sebuah platform IoT yang system operasinya berbasis webbase, aplikasi iOS dan Android yang digunakan sebagai kendali pada modul Arduino, Raspberry Pi, ESP8266, ESP32 dan perangkat sejenis lainnya melalui internet.



PERKEMBANGAN Blynk IoT

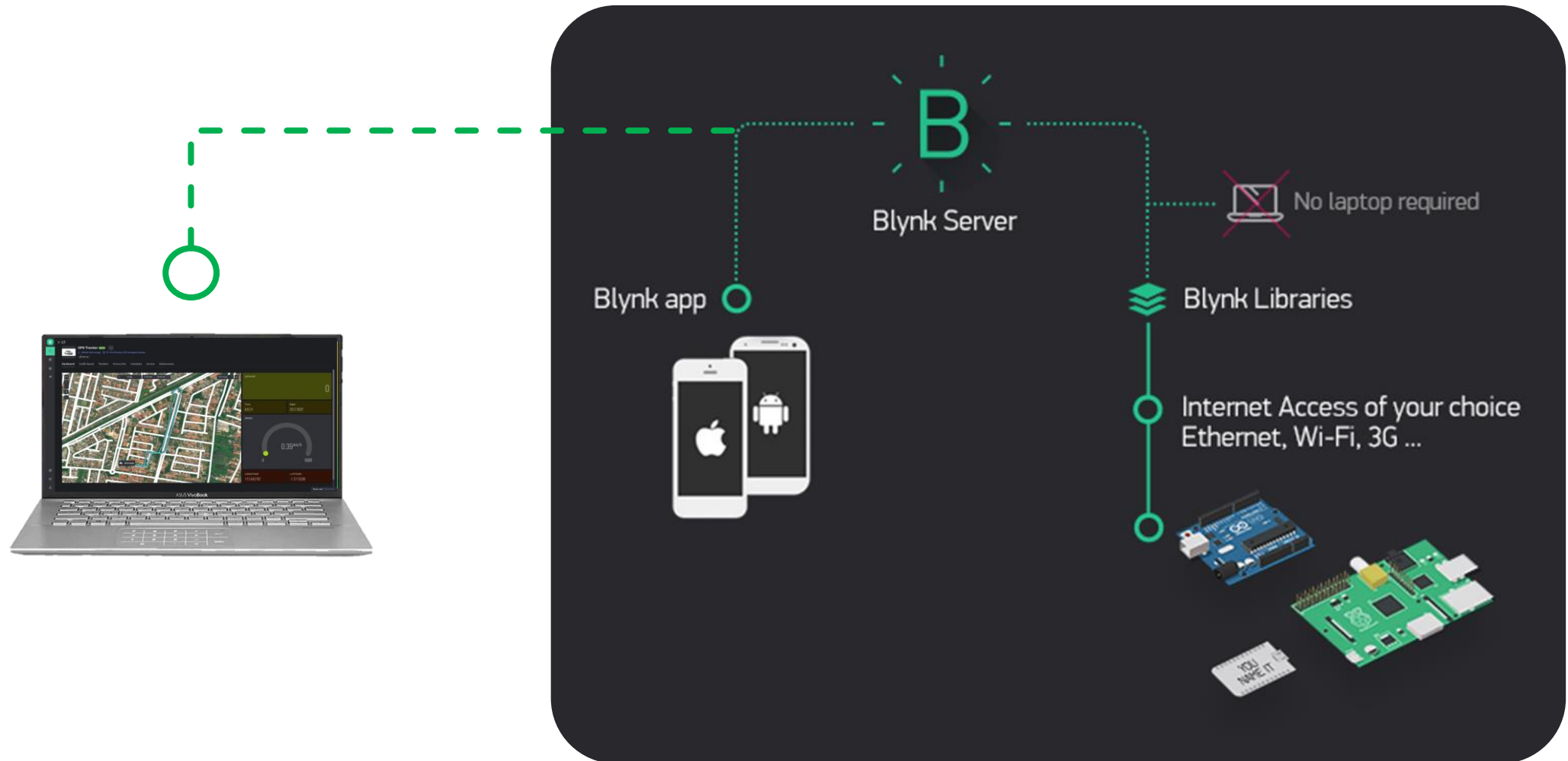
Blynk



Blynk IoT



CARA KERJA BLYNK



PENGENALAN DASHBOARD BLYNK IOT

Blynk

blynk.cloud/dashboard/290/global/filter/2161/organization/290/devices/263/dashboard

My organization - 79

← Back

Search

1 Device

• Magicbit

Magicbit Online

My organization - 79

Add Tag

Dashboard Timeline Device Info Metadata Service

Latest Last Hour 6 Hours 1 Day 1 Week 1 Month 3 Months Custom Range

temperature 30°C

humidity 26%

Weather Chart

100 50 0 6:30 PM 6:40 PM 6:50 PM 7:00 PM 7:10 PM 7:20 PM

Privacy Policy

blynk

Blynk - Arduino, ESP8266, RPi

Blynk Inc.

4.6 ★ (3,865) • 100 thousand ↓

MORE INFO

INSTALL

In-app purchases

You Might Also Like MORE

ARDUINO Tutorials

Arduino Tutorials

Arduino Sensors

ESPE WIFI

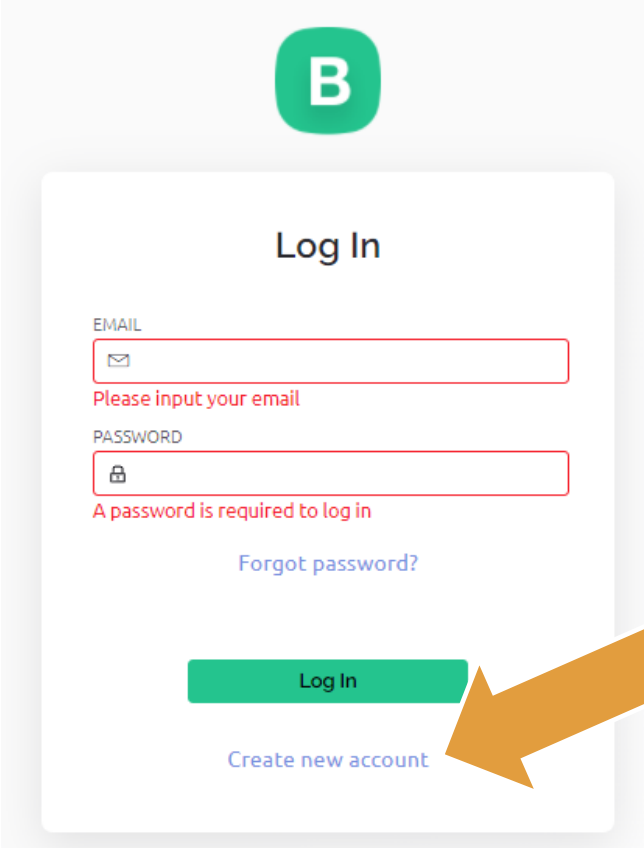
4.2★ FREE 4.2★ FREE 4.4★ FREE 4.0★

CARA MEMBUAT AKUN Blynk IoT

- ✓ Ketik di browser www.blynk.cloud

 blynk.cloud/dashboard/login

- ✓ Klik Create New Account



B

Log In

EMAIL

Please input your email

PASSWORD

A password is required to log in

[Forgot password?](#)

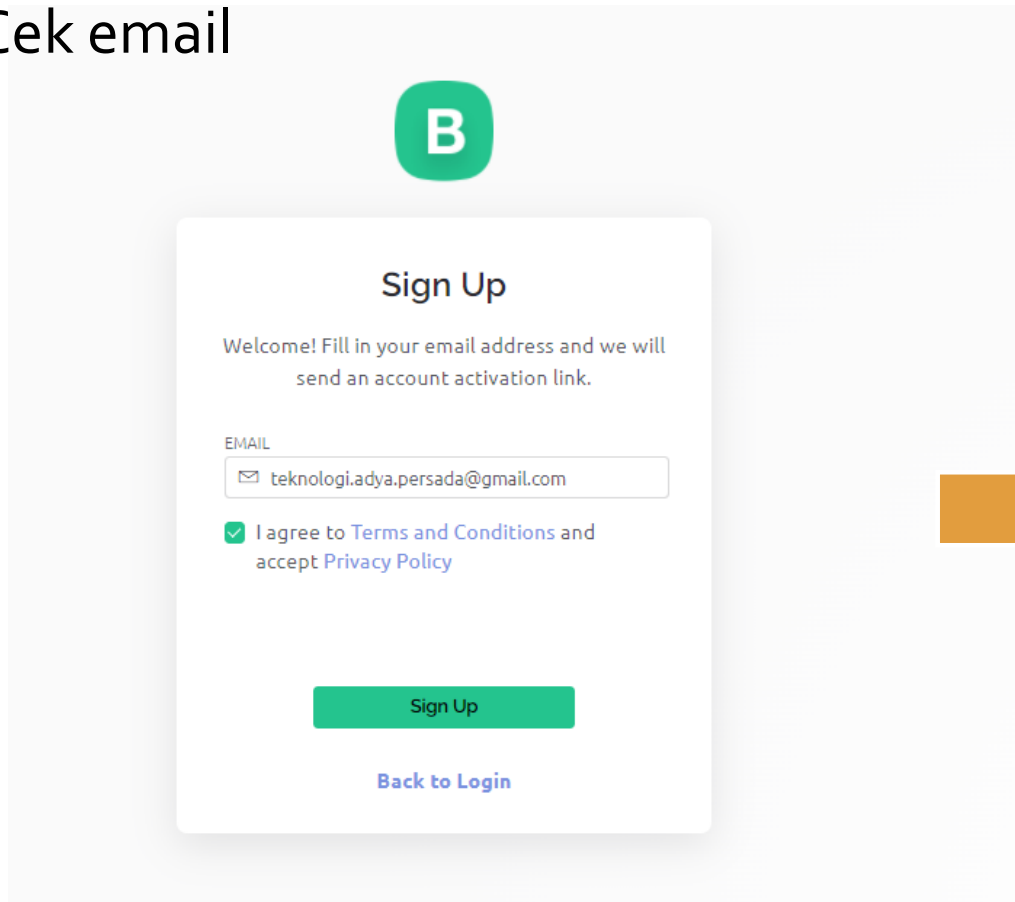
[Log In](#)

[Create new account](#)

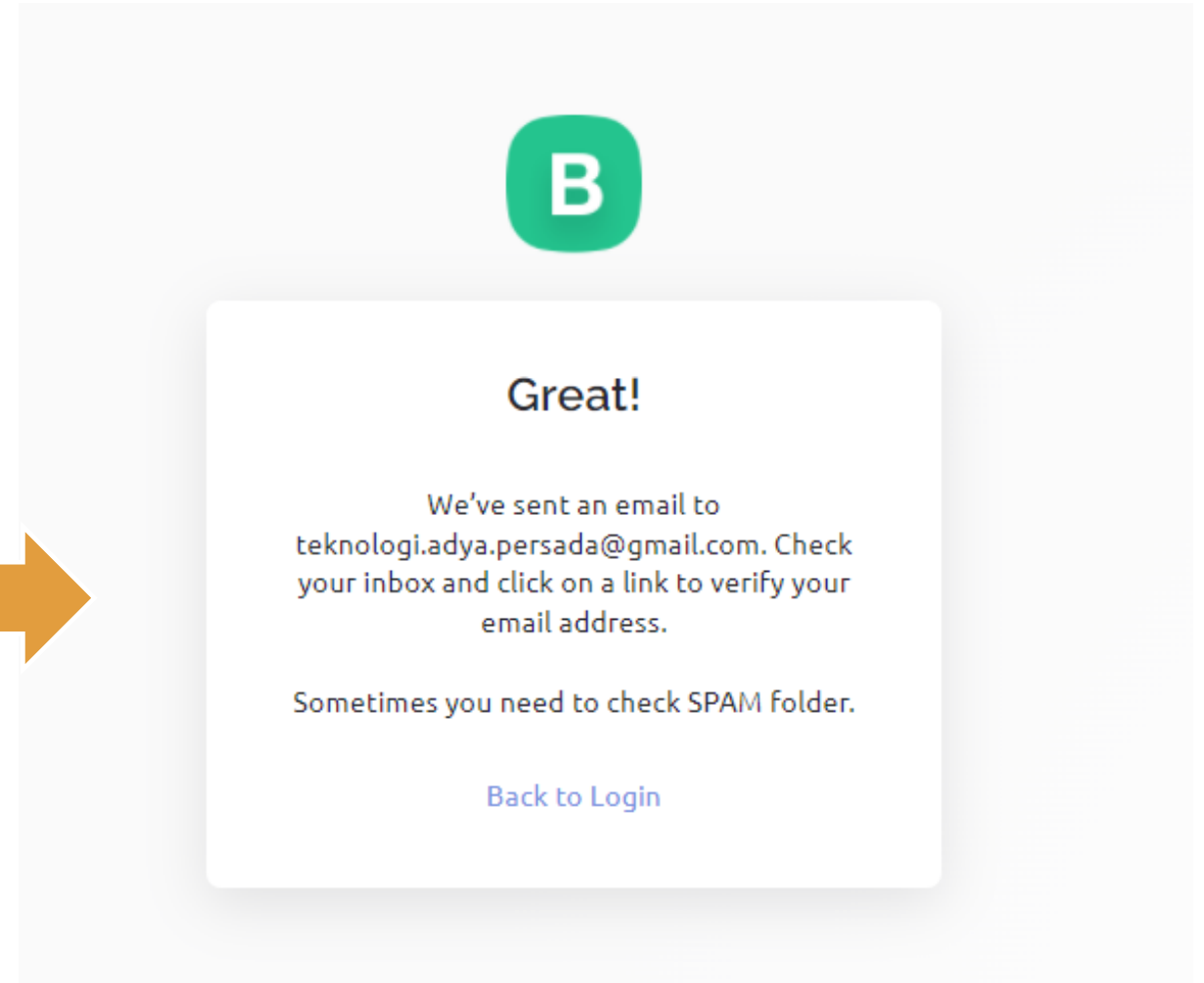
Create New Account

NEXT....

- ✓ Isi email dan centang I agree....
- ✓ Klik Sign Up
- ✓ Cek email



The screenshot shows a sign-up form with a green circular logo containing the letter 'B' at the top. The form title is 'Sign Up'. Below the title, it says 'Welcome! Fill in your email address and we will send an account activation link.' There is an email input field with the text 'EMAIL' above it and 'teknologi.adya.persada@gmail.com' inside. Below the input field, there is a checked checkbox and the text 'I agree to Terms and Conditions and accept Privacy Policy'. At the bottom of the form, there is a green 'Sign Up' button and a blue 'Back to Login' link.



The screenshot shows a confirmation screen with a green circular logo containing the letter 'B' at the top. The title is 'Great!'. Below the title, it says 'We've sent an email to teknologi.adya.persada@gmail.com. Check your inbox and click on a link to verify your email address.' Below this, it says 'Sometimes you need to check SPAM folder.' At the bottom, there is a blue 'Back to Login' link.

CEK INBOX EMAIL

Welcome to Blynk.Console Inbox x



Blynk <robot@blynk.cloud>
to me ▾



Welcome!

We're excited to see you on board.

To get started, you'll need to create a password for your account.

Create PASSWORD



Create Password

CREATE PASSWORD

- ✓ Buat Password yang tidak mudah dibobol
- ✓ Ketik Nama Profil
- ✓ Done

Password
Blynk

Create Password
Create a password which is hard to guess.

PASSWORD

A password is required to log in

- Make it at least 8 symbols long

Other tips:

- Use uncommon words
- Use non-standard uPPercaSing
- Use kreatif spellllllling
- Use non-obvi0u\$ number\$ & symbo1s

Log In Next


Nama
Profile

Profile
Fill in information your personal data

FIRST NAME

Back to password creation Done

WELCOME TO Blynk IoT



My organization - 7876JH

ORGANIZATION SETTINGS

- General
- Users
- Locations
- Billing**
- Tags

ACCESS

- Roles and permissions

DEVELOPERS

- Webhooks

Billing

You are using Free plan

USERS	DEVICES
<div><div style="width: 20%;"></div></div> 1 of 5	<div><div style="width: 0%;"></div></div> 0 of 2

[Upgrade to Add More](#)

Pricing

[Bill Monthly](#) **[Bill Yearly \(Save ~ 20%\)](#)** [See Full Plan Comparison](#)

Free USD \$0 /year	<ul style="list-style-type: none">✓ 2 Devices✓ 5 user max✓ Free Widgets Pack✓ 30 Widgets per template✓ Historical data storage: 1 week
------------------------------	--

Your current plan [Check all features](#)

DASHBOARD Blynk IoT

The screenshot shows the Blynk IoT web dashboard. On the left is a sidebar with a search bar, a list of devices including 'IOT PROJECT 2022' and 'WIRELESS SENSOR NETWORK', and various navigation icons. The main content area displays the 'IOT PROJECT 2022' dashboard, which is currently 'Offline'. It features a navigation menu with 'Dashboard', 'Timeline', 'Device Info', 'Metadata', and 'Actions Log'. A time filter is set to 'Last Hour'. The dashboard contains several data widgets: 'POTENSIO' (701), 'LDR' (682), 'SERVO' (180), 'DHT11 SUHU' (29), and 'DHT11 LEMBAB' (11). There are also control widgets for 'Relay' and 'Led', both currently turned off.

The screenshot shows the Blynk IoT mobile app interface. At the top, the status bar displays the time 16:32 and battery level 84%. The app header includes the Blynk logo and navigation icons. The main screen features two large cards for 'IOT PROJECT 2022' and 'WIRELESS SENSOR NETWORK', both showing an 'Offline' status. At the bottom, there is a navigation bar with 'Devices' and 'Notifications' icons, and a home indicator bar.

Blynk IoT di HANDPHONE

- ✓ Search di playstore **Blynk IoT**
- ✓ Instal
- ✓ Login
- ✓ Upgrade ke PLUS

Google Play

Search

Apps

Categories | Home | Top charts | New releases

My apps

Shop

Games

Kids

Editors' Choice

Account

Payment methods

Play Points **New**

My subscriptions

Redeem

Buy gift card

My wishlist

My Play activity

Parent Guide

Blynk IoT

Blynk Inc. Tools

★★★★★ 909

3+

Offers in-app purchases

This app is available for all of your devices

You can share this with your family. [Learn more about Family Library.](#)

Installed

One app to control all IoT devices

- Connect one or multiple devices
- Secure cloud
- Monitor sensor data in real time
- Control any electronic appliances
- Get alerts and notifications

Drag-n-drop beautiful IoT apps in minutes

Build user-friendly interfaces with no code

Over 40 real UI elements

Buttons, sliders, c



Enjoyneering Fair 2022

LANGKAH-LANGKAH MEMBUAT APLIKASI DI BLYNK IoT

MEMBUAT TEMPLATE

- ✓ Create New Template
- ✓ Isi Nama Template
- ✓ Pilih Hardware (ESP8266)
- ✓ Done

The image shows a two-part screenshot of the Blyn IoT platform interface. The top part displays the 'Templates' page with a sidebar on the left containing a search icon, a grid icon, a building icon, and a paper plane icon. The main content area has a search bar labeled 'Search Templates' and a '+ New Template' button. Two template cards are visible: 'WIRELESS SENSO...' and 'IOT PROJECT 2022', both with '1 Device' listed below. An orange arrow with the number '1' points to the '+ New Template' button. The bottom part of the image shows the 'Create New Template' form. It has a 'NAME' field with 'Name' as a placeholder, a 'HARDWARE' dropdown menu set to 'ESP8266', and a 'CONNECTION TYPE' dropdown menu set to 'WiFi'. An orange arrow with the number '2' points to the 'NAME' field, and another orange arrow with the number '3' points to the 'HARDWARE' dropdown. Below these fields is a 'DESCRIPTION' text area containing the text 'This is my template'. At the bottom right of the form are 'Cancel' and 'Done' buttons. The page number '19 / 128' is visible in the bottom right corner.

B

Templates

1 → + New Template

Search Templates

WIRELESS SENSO...
1 Device

IOT PROJECT 2022
1 Device

Create New Template

NAME
Name ← 2

HARDWARE
ESP8266 ← 3

CONNECTION TYPE
WiFi

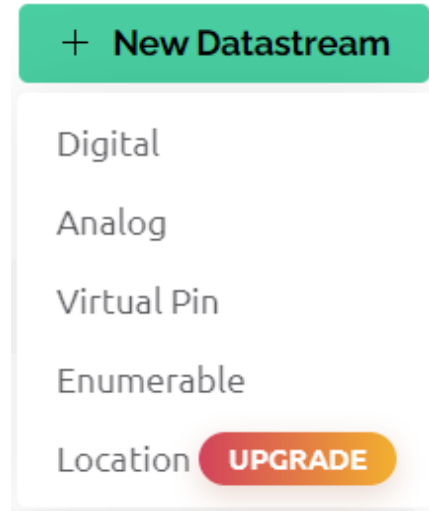
DESCRIPTION
This is my template

19 / 128

Cancel Done

BUAT DATASTREAM

✓ Klik New Datastream



✓ Pilih : Digital, Analog atau Virtual Pin

✓ Isi Nama Field

✓ Sesuaikan pin datastream dgn di Sketch

✓ Create

Digital Datastream

NAME: ALIAS:

PIN: PIN MODE:

ADVANCED SETTINGS

Cancel **Create**

Analog Datastream

NAME: ALIAS:

PIN: PIN MODE:

UNITS:

MIN: MAX: DEFAULT VALUE:

ADVANCED SETTINGS

Cancel **Create**

Virtual Pin Datastream

NAME: ALIAS:

PIN: DATA TYPE:

UNITS:

MIN: MAX: DEFAULT VALUE:

ADVANCED SETTINGS

Cancel **Create**

BUAT DASHBOARD

- ✓ Pilih widget
- ✓ Drag widget ke kanan
- ✓ Edit sesuaikan datastream
- ✓ Save
- ✓ Jika sudah semua – klik save dan apply

The screenshot shows the 'smart home' dashboard configuration page. On the left is a 'Widget Box' containing a 'Switch' (turned on), a 'Slider' (set to 8), a 'Number Input' (set to 0), and an 'Image Button'. The main dashboard area displays a 'Device name' (Online) with 'Device Owner' and 'Company Name' fields. Below this are several widgets: 'Lampu Kamar (V0)' with a lightbulb icon, 'temp (V2)' with a gauge showing 65°C, 'humi (V1)' with a gauge showing 33%, 'time (V3)' with a 'String' field, and 'Date (V4)' with a 'String' field. A 'Chart (V2, V1)' shows two data series: 'temp' (orange line) and 'humi' (teal line). The chart has a y-axis from 0 to 100. The interface includes a top navigation bar with 'Info', 'Metadata', 'Datastreams', 'Events', 'Automations', 'Web Dashboard', and 'Mobile Dashboard'. A 'Save And Apply' button is visible in the top right corner.

The screenshot shows the 'Gauge Settings' dialog box for the 'temp (V2)' widget. The dialog has a title 'Gauge Settings' and a 'TITLE (OPTIONAL)' field containing 'temp'. The 'Datastream' field is set to 'temp (V2)'. There are two options: 'Override Datastream's Min/Max fields' (unchecked) and 'Change color based on value' (checked). A color selection box shows an orange color. A preview of the gauge widget is shown, displaying 'temp (V2)' with a gauge showing 65°C. The dialog has 'Cancel' and 'Save' buttons at the bottom.

MASUK MENU DEVICE

- ✓ Klik + New Device
- ✓ Pilih From Template
- ✓ Pilih Template yang sudah dibuat
- ✓ Create

New Device

Create new device by filling in the form below

TEMPLATE

Choose template

3

DEVICE NAME

New Device

Cancel

Create

My organization - 1380HE

My Devices

2 Devices

Device name	Device owner	Status	Device model	Last updated	Actions
IOT PROJECT 2022	Febri	Offline		11:10 PM Jun	
WIRELESS SENSOR NETWORK	Febri	Offline		11:20 AM Jun	

New Device

Choose a way to create new device

From template



Scan QR code



Manual entry



2



Point on the cards to see instructions

Cancel

COPY TO CLIPBOARD TEMPLATE TOKEN

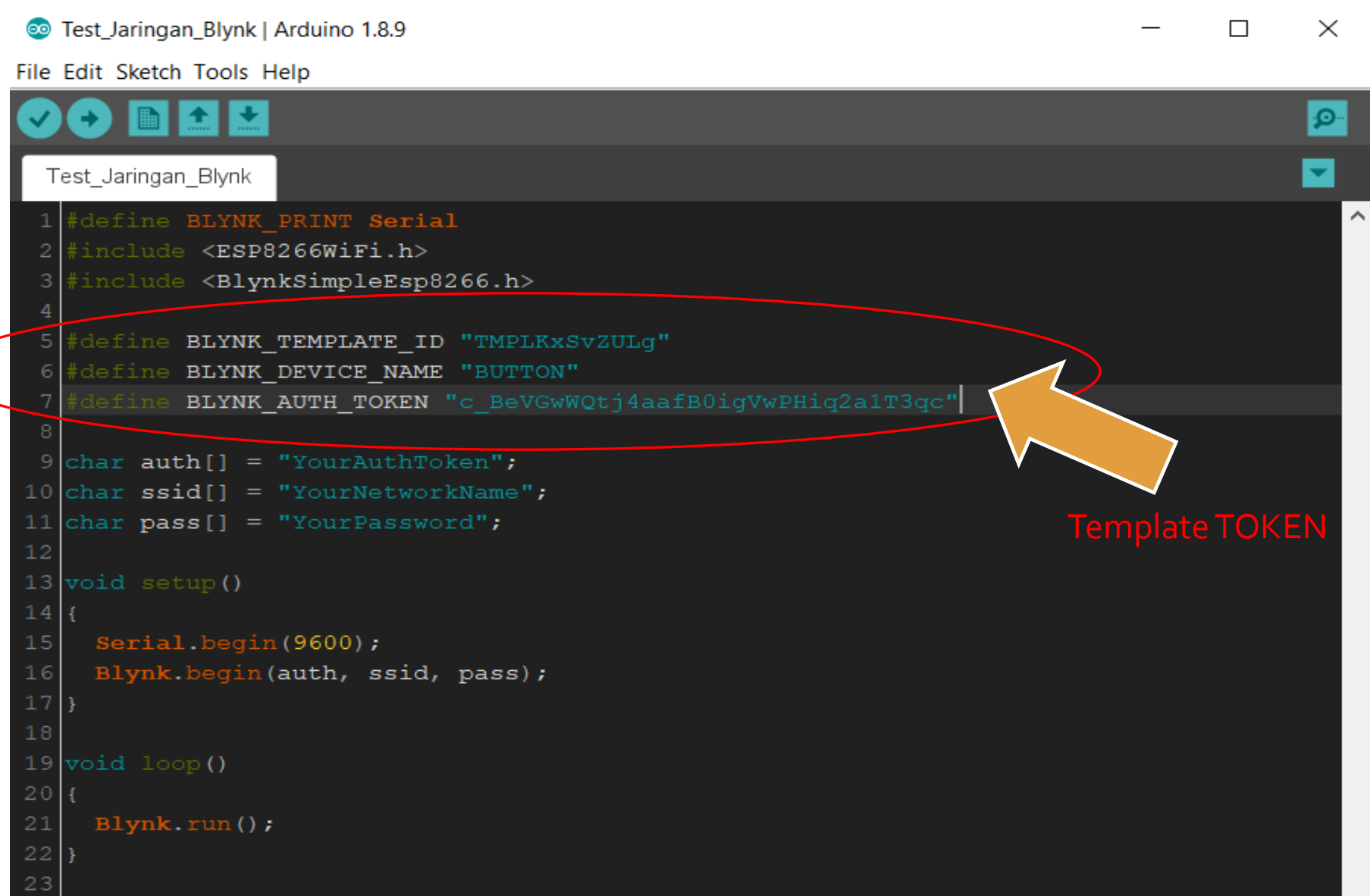
The screenshot shows the Blynk dashboard interface. On the left is a sidebar with a search bar and a list of 6 devices: ALL PB DIRECT, ANALOG DIRECT, Blink, DHT11test, TESTUJK2, and BUTTON. The main area displays the details for the 'BUTTON' device, which is currently 'Offline'. Below the device name are tabs for Dashboard, Timeline, Device Info, Metadata, and Actions Log. The 'Dashboard' tab is active, showing a 'Last Hour' filter and two virtual device controls: 'BUTTON VIRTUAL' (a toggle switch) and 'LED VIRTUAL' (a circular indicator).

A notification window titled 'New Device Created!' is overlaid on the right side. It contains the following code snippet:

```
#define BLYNK_TEMPLATE_ID "TMPLKxSvZULg"  
#define BLYNK_DEVICE_NAME "BUTTON"  
#define BLYNK_AUTH_TOKEN  
"c_BeVGwWQtj4aafB0igVwPHiq2a1T3qc"
```

Below the code, a note states: 'Template ID, Device Name, and AuthToken should be declared at the very top of the firmware code.' At the bottom of the notification, there are two buttons: 'Documentation' and 'Copy to clipboard'. An orange arrow points to the 'Copy to clipboard' button.

PASTE TEMPLATE TOKEN KE SKETCH



```
Test_Jaringan_Blynk | Arduino 1.8.9
File Edit Sketch Tools Help

Test_Jaringan_Blynk

1 #define BLYNK_PRINT Serial
2 #include <ESP8266WiFi.h>
3 #include <BlynkSimpleEsp8266.h>
4
5 #define BLYNK_TEMPLATE_ID "TMPLKxSvZULg"
6 #define BLYNK_DEVICE_NAME "BUTTON"
7 #define BLYNK_AUTH_TOKEN "c_BeVGwWQtj4aafB0igVwPHiq2a1T3qc"
8
9 char auth[] = "YourAuthToken";
10 char ssid[] = "YourNetworkName";
11 char pass[] = "YourPassword";
12
13 void setup()
14 {
15     Serial.begin(9600);
16     Blynk.begin(auth, ssid, pass);
17 }
18
19 void loop()
20 {
21     Blynk.run();
22 }
23
```

Template TOKEN