

**A Vision for Sustainable Development & Growth**

# **BIOECONOMY 2030**

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# A Vision for Sustainable Growth & Development

By **2030**, the world will need

50% more **FOOD**

45% more **ENERGY**

30% more **WATER**



# AGENDA 2030

**SUSTAINABLE  
DEVELOPMENT** **GOALS**

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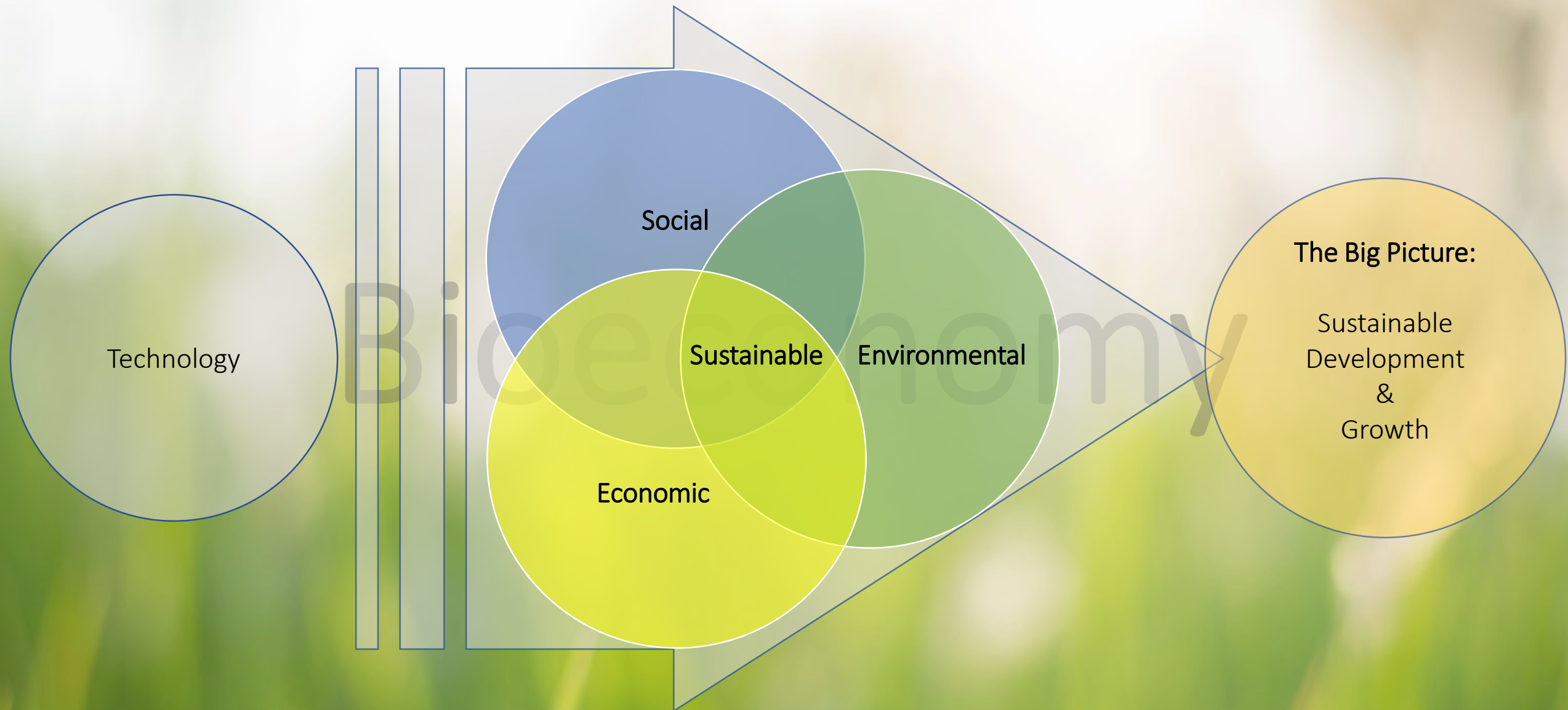
# SUSTAINABLE DEVELOPMENT GOALS



# Bioeconomy

- An economy that utilises biological, natural resources and turns them into **food, energy, and other products and services**
- Use of **clean technologies** which save the environment and by efficient recycling of materials
- Decreasing dependency on **fossil fuels**
- Preventing overly **impoverishment of ecosystems**
- Promoting **economic development** and creating **new jobs**

**Bioeconomy is the next wave of economy**



Technology

Social

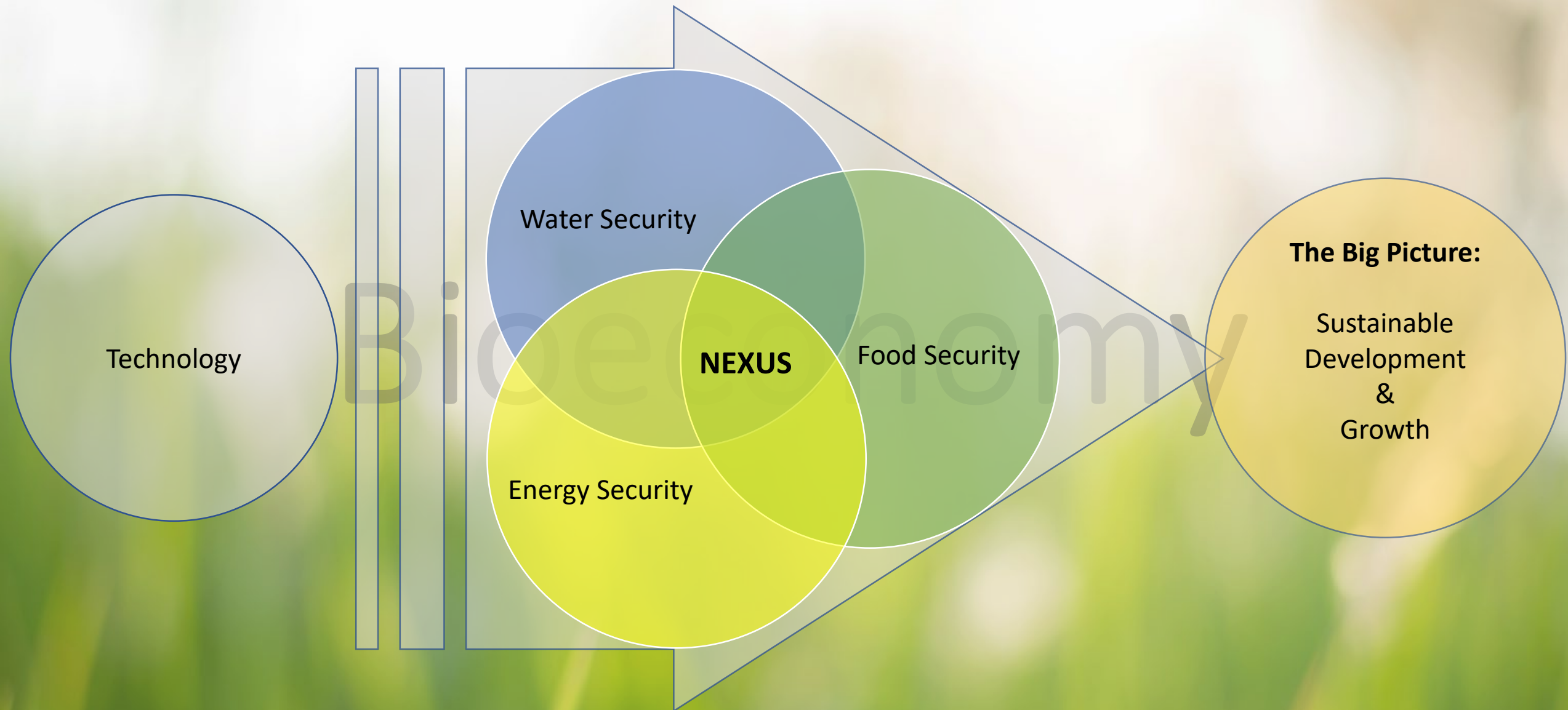
Sustainable

Environmental

Economic

The Big Picture:

Sustainable  
Development  
&  
Growth



Technology

Water Security

**NEXUS**

Food Security

Energy Security

**The Big Picture:**

Sustainable  
Development  
&  
Growth





Research

Innovation

Education  
&  
Training

Governance &  
Public  
Dialogue

vision

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# Criteria for the Nordic Bioeconomy

1. SUSTAINABLE USE OF NATURAL RESOURCES
2. TECHNOLOGICAL INNOVATION
3. ENVIRONMENTAL BENEFITS
4. SOCIETAL BENEFITS
5. BUSINESS MODEL INNOVATION



Nordic Council  
of Ministers

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# The Peat Bioeconomy

## What criteria?

### 1. Sustainable Use of Natural Resources

- ✓ addressing issues of resource scarcity in the local context
- ✓ optimising the biomass use
- ✓ contributing to a circular economy

### 2. Technological Innovation

- ✓ Developing & applying new technology
- ✓ Adapting existing technology to new applications

### 3. Environmental benefits

- ✓ potential to reduce CO2 emissions across the value chain
- ✓ potential to improve ecosystems

# The Peat Bioeconomy

## What criteria?

### 4. Societal benefits

- ✓ creating new jobs
- ✓ engaging local communities
- ✓ providing positive public health or well-being benefit

### 5. Business Model Innovation

- ✓ new products or services
- ✓ new cost structures or revenue streams
- ✓ enter or create new markets



# The Peat Bioeconomy

## Challenges

- Policy/law development
- Emission Trading Scheme 2021-2030
- Changes in energy market
- Changes in climate & carbon sink-source dynamics

# The Peat Bioeconomy

## Opportunities

- Local/regional/national food & energy security & independence
- Supporting climate goals through wise use of mires (incl. energy peat)
- Promoting/sustaining economic development and creating new jobs in rural areas → e.g. circular economy
- Innovation potential

# The Peat Bioeconomy

## Horticulture & Climate Change

### Challenges:

- Overwintering more difficult due to snowless winters weather extremes
- Increase the incidence of plant diseases
- Need for winter hardy and disease and pest resistant varieties will increase
- Greenhouses: less heating but more artificial lighting needed
- More expensive production technologies
- Technical challenges of peat use in vertical horticulture

# The Peat Bioeconomy

## Horticulture & Climate Change

### Opportunities:

- Growing seasons will become longer and winters will be shorter
- Yields might become larger
- New types of varieties and species in northern countries
- Fruits will be grown in more northern areas
- Northern countries may have a bigger role as a food producer



# RDI Potential: Smart Water Pumping Case Vapo (Project IoTli)

## Problem:

- Current pumping mechanism ON/OFF
- Water flow towards drainage field very uneven
- Sub-optimal drainage field functionality





# RDI Potential: Smart Water Pumping Case Vapo (Project IoTli)

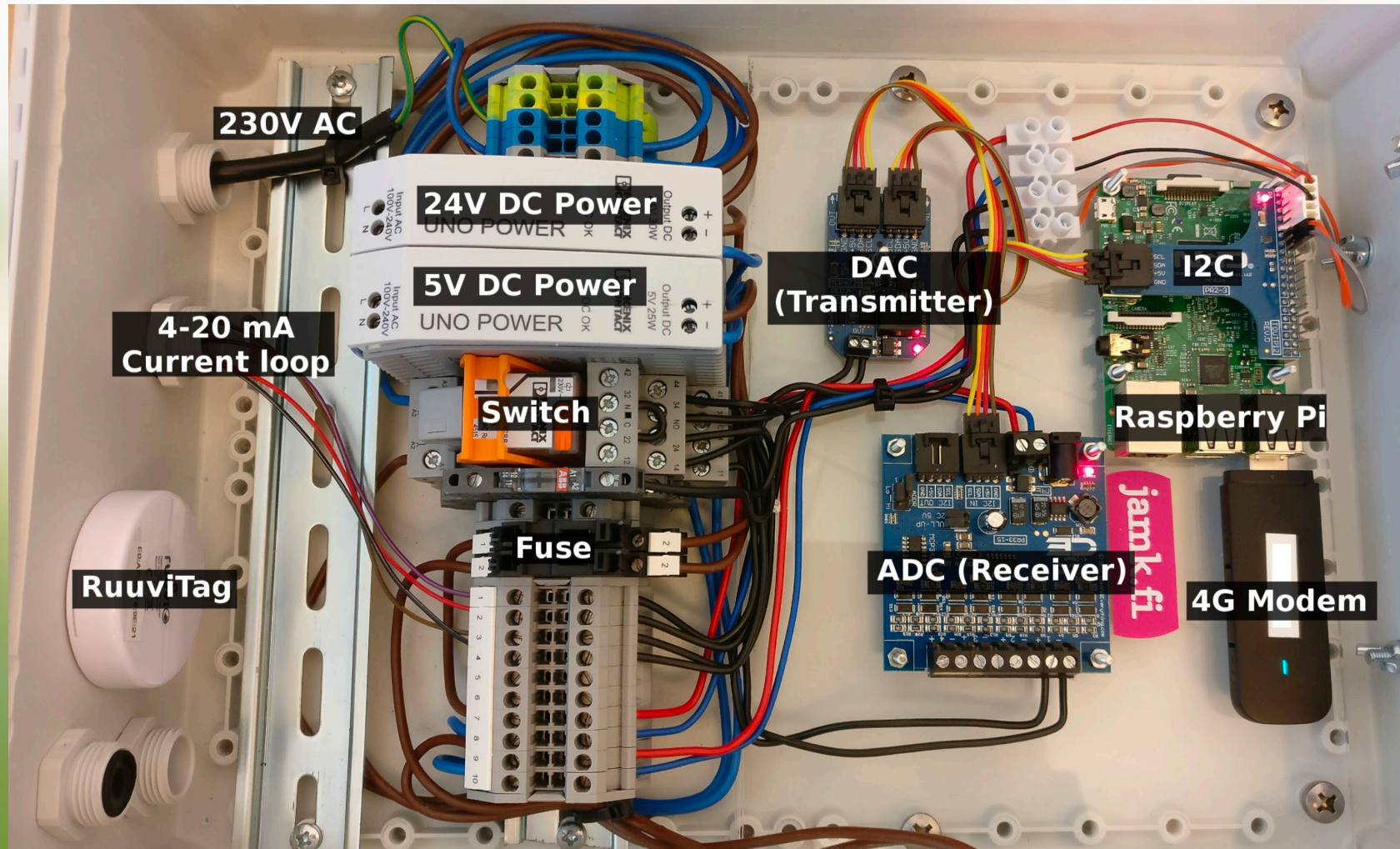
## IoT Solution:

- Cloud-based continuous monitoring:
  - Waterlevel
  - Hydrological variables
  - Activities
  - Current weather conditions
  - Weather forecast
- Data supported & automatized smart pumping for even flow and optimized drainage field operation
- Remotely controllable





# RDI Potential: Smart Water Pumping



Thank You!

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