IIoT Data Processing Module
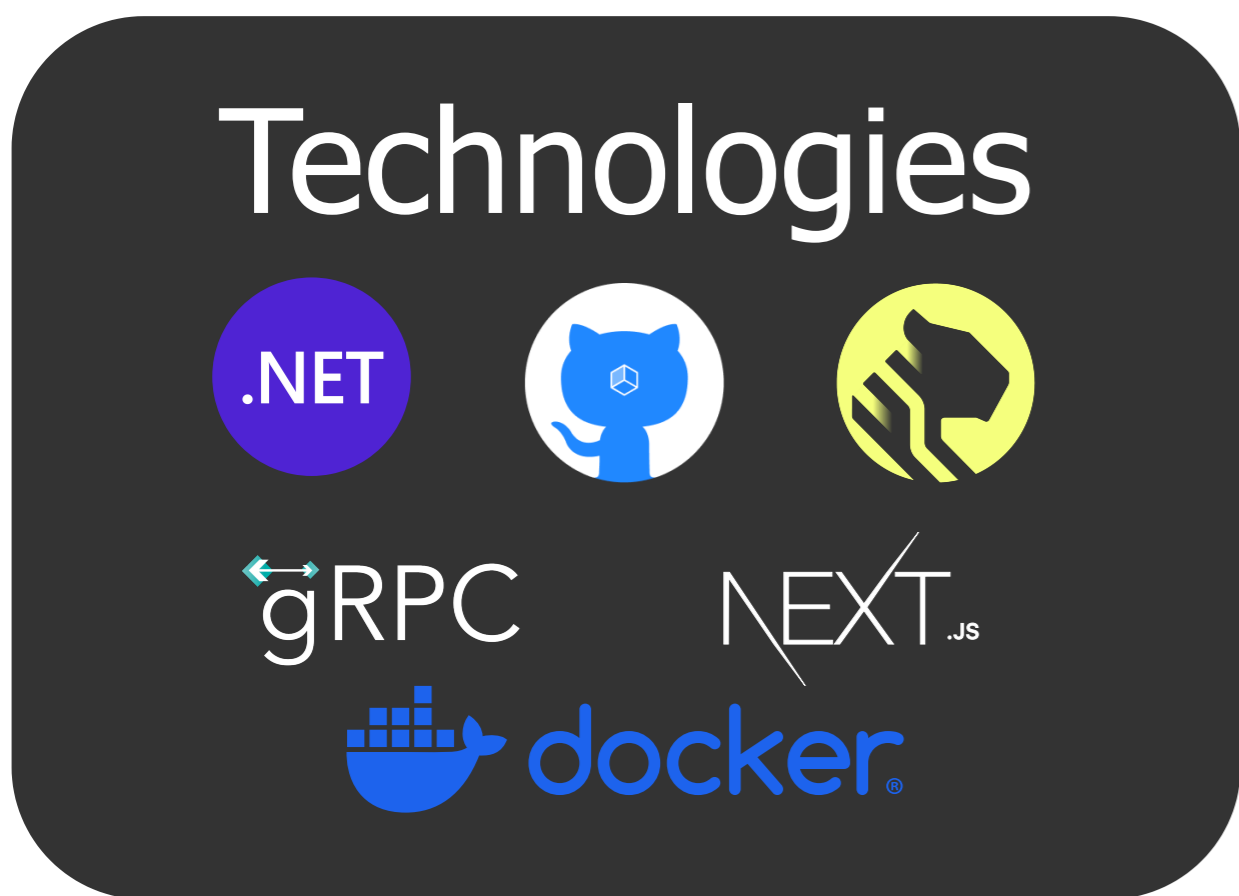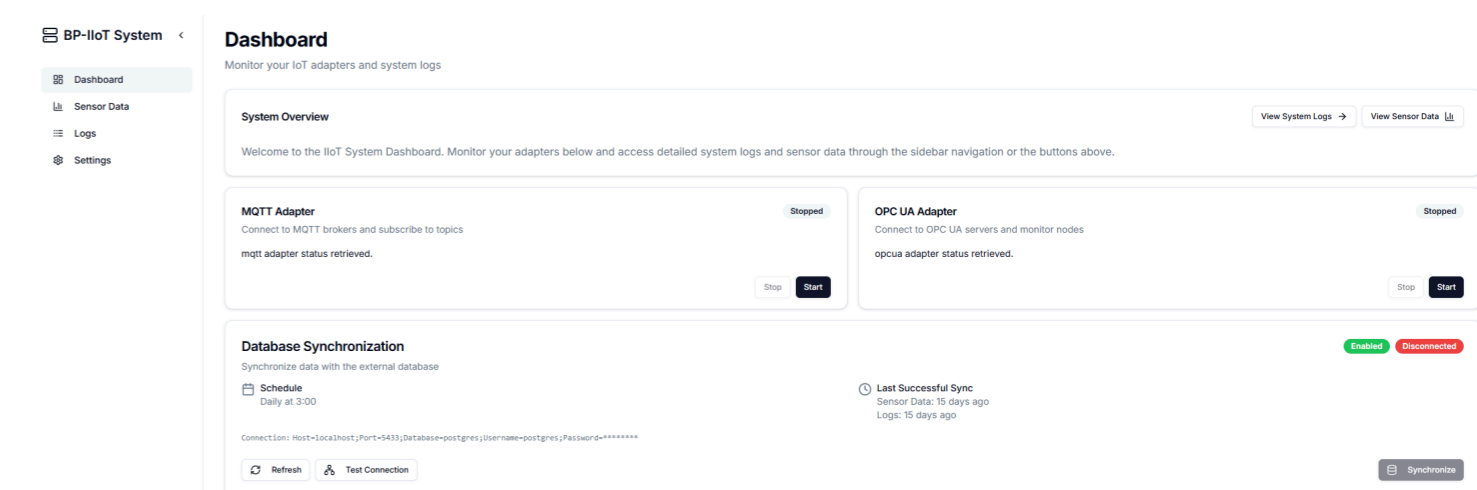
AGESOFT

Technologies

.NET gRPC NEXT.js docker

Figure 1

Figure 2

Figure 3
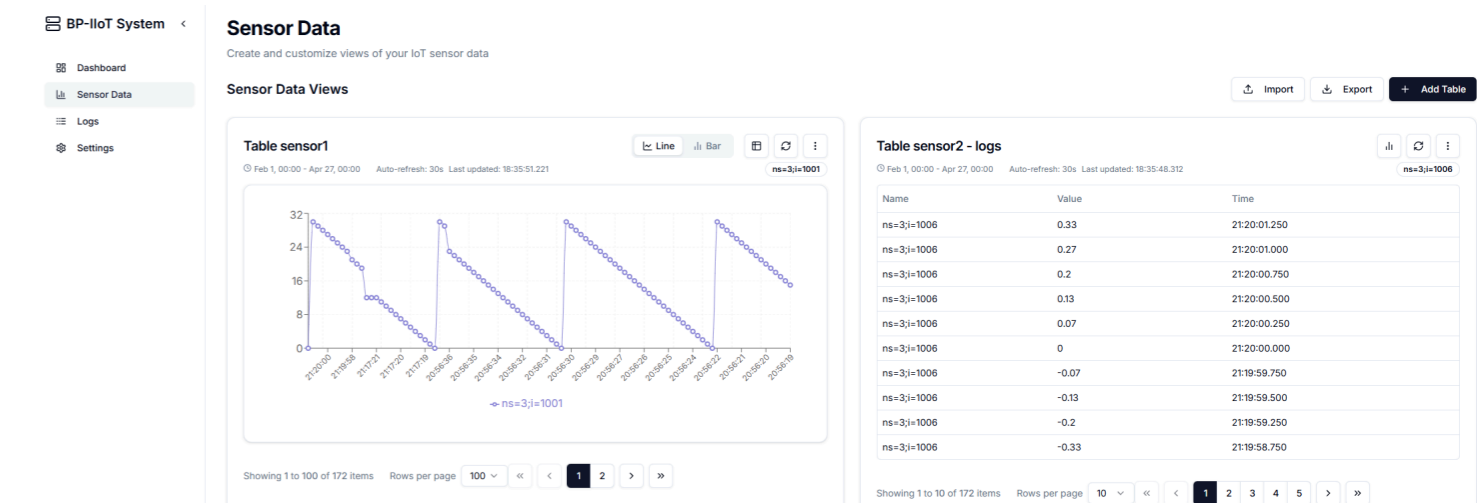
Figure 4

Figure 5

Figure 6

DATA

Probes | PLC | Sensors | HMI | Databases

MQTT, OPC UA, MODBUS, SQL...

INPUT MODULE

SQL

gRPC

CLOUD ANALYTICS

INTERNAL DATABASE

SQL

OUTPUT MODULE

REST API

SQL SYNCHRONIZATION

REST API

WEB APPLICATION

EXTERNAL DATABASE

Figure 7

CORE
BP-IIoT_Core

MODELS

INTERFACES

REPOSITORIES

DB CONTEXTS AND ENTITIES

IMPLEMENTS

INPUT MODULE
BP-IIoT_InputModule

ADAPTER CONFIGURAITON

DATA HANDLING AND PROCESSING

EVENT HANDLING

gRPC SERVICES

COMMUNICATES

OUTPUT MODULE
BP-IIoT_OutputModule

REST CONTROLLER

gRPC CLIENT

DB SYNCHRONIZATION

SYSTEM CONFIGURATION

SENDS DATA

COMMUNICATES

ADAPTERS
BP-IIoT_Adapters

MQTT ADAPTER

OPC UA ADAPTER

WEB APP
BP-IIoT_WebApp

NEXT.JS WEBSITES

MODULES CONFIGURATION

LOGS AND SENSOR DATA VIEWER
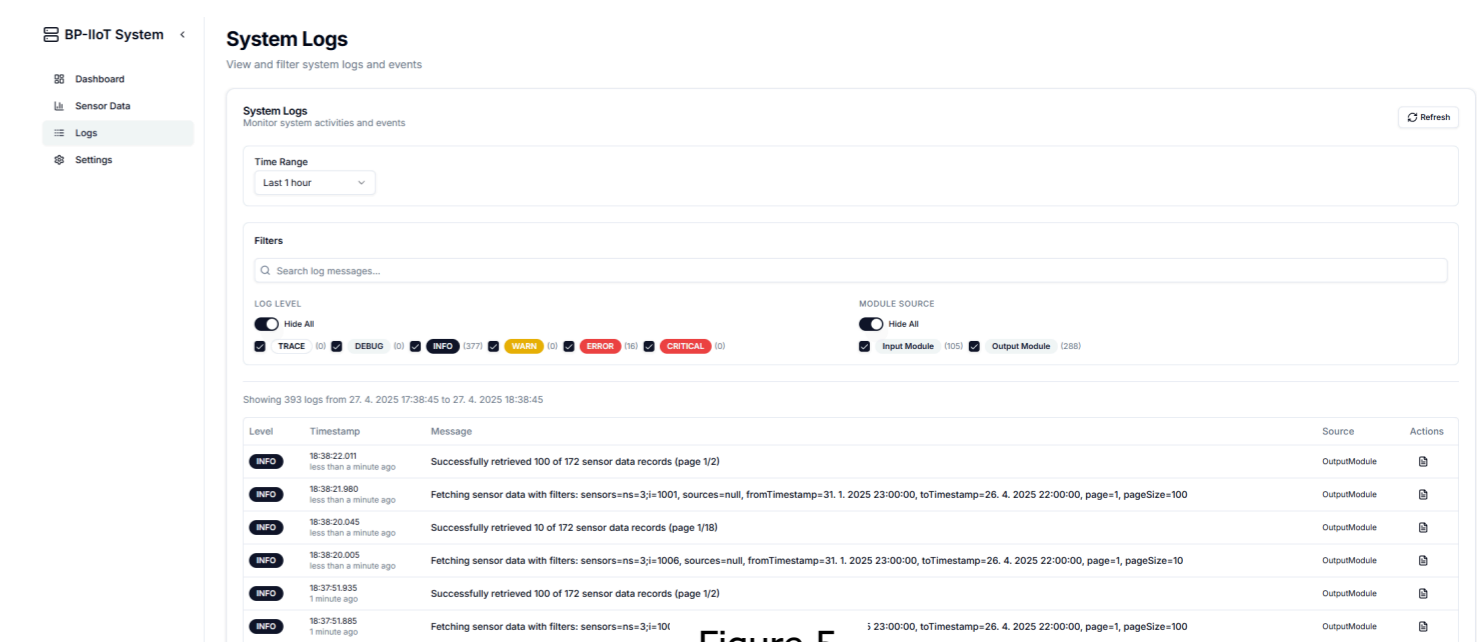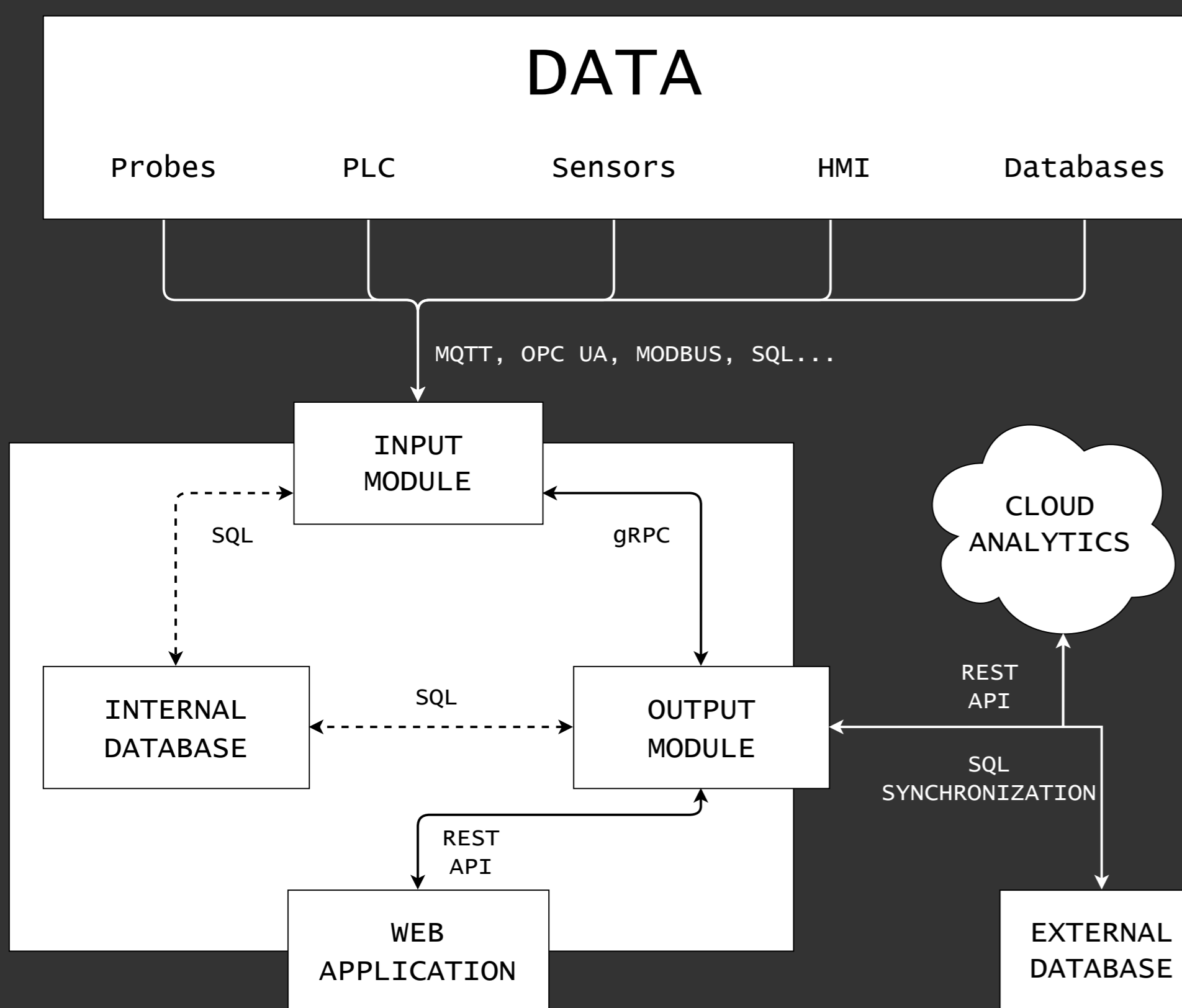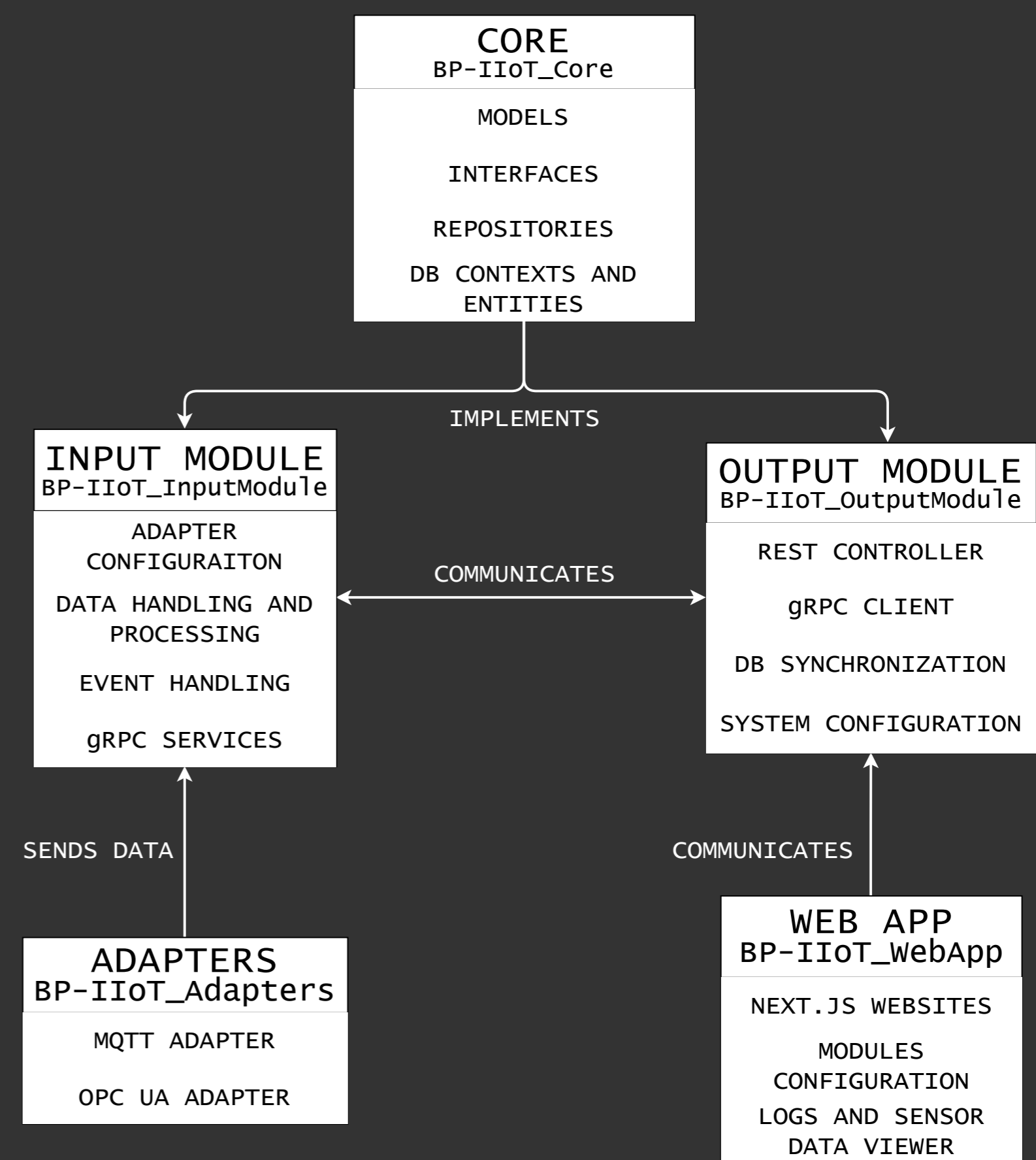
WHY
Bridging the Data Gap Between Industrial Equipment and Business Intelligence

HOW
Datra Collector with Modular Design with Interchangeable Adapters for MQTT, OPC UA and Future Protocols

RESULTS
Complete End-to-End Solution Demonstrating Practical Implementation of Industrial IoT Concepts and Technologies Tested on Real Projects

Tobiáš Frajka
IIoT Data Processing Module, 2025
Ing. Jiří Hynek, Ph.D.