I2R LABS

IDEAS INTO REALITY

CORPORATE PROFILE

PIXEL CARE
CONNECT
Where Pixels Connect Care

www.i2rlabs.com | www.pixelcareconnect.com

ORIGINS & VISION

Founded in 2009, I2R Labs (Ideas into Reality Labs) was established with a clear engineering-driven vision: to transform complex ideas in electronics, sensing and data science into real, deployable systems that deliver measurable impact in the physical world.

From its inception, I2R Labs positioned itself at the convergence of electronics, IoT, spectroscopy, artificial intelligence and healthcare, focusing not on isolated innovations, but on complete systems that connect hardware, software and intelligence.

As this journey matured, PixelCare Connect emerged as the wellness and digital health expression of I2R Labs' long-standing R&D and platform capabilities—extending deep engineering into everyday healthcare and well-being.

ABOUT

At its core, I2R Labs is a deep-technology engineering organization, driven by strong system architecture, execution discipline, and long-term platform thinking.

The group's work spans:

- Embedded electronics and firmware
- IoT and M2M platforms
- Spectroscopy and optical sensing
- AI/ML and computer vision
- Mobile and cloud-based platforms

:

European medical device companies (portable IVD development)

A Taiwanese company for the world's smallest spectrometer

Organizations such as Bangalore International Airport (BIAL), Doctors Without Borders (MSF), Network Rail (UK), and DRDO for IoT, monitoring, and analytical systems

PixelCare Connect,
Incubated within this ecosystem, represents the healthcare and wellness-focused platform built on these proven engineering foundations.

Solutions Landscape & Technology Breadth

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I2R Labs' capabilities span multiple solution domains, developed as interconnected engineering platforms:

IoT & M2M Solutions
Smart monitoring, asset tracking, industrial and infrastructure telemetry

AI / ML & Computer Vision
Face recognition, OCR, ANPR, image-based analytics, and decision-support systems

Spectroscopy & Analytical Systems
Compact spectrometer devices, cloud analytics, and data-driven interpretation

Healthcare & Diagnostics
Strip readers, portable diagnostics, and AI-assisted diagnostic workflows

Across domains, I2R Labs emphasizes system ownership — designing electronics, firmware, software, and analytics as a cohesive whole.

At the center of the healthcare focus lies PixelCare Connect, the wellness division of I2R Labs.

PixelCare Connect – Wellness Division

IoT and M2M platforms

GSM GATE CONTROLLER

GSM GPRS Cool Room Temperature & Refrigeration Monitoring

M2M– GSM Pump Starter Control/Monitor- I2R-GSM-PSC-V1.0

M2M– Remote Water Level Monitoring and Alerting System Using
GSM GPRS Telemetry- I2R-GSM-GGWLM-V1.0

GSM GPRS Green House Monitoring System

GSM Fish Pool Monitoring / GSM Aquarium Monitoring System

GSM GPRS Monitoring and Control System for Generator

GSM GPRS Fuel Theft Prevention and Monitoring System

GSM Lift And Escalator Fault Monitoring

GSM GPRS Server and Equipment Room Monitoring

M2M-SMS-Call Based Input Output Control and Monitor

Spectroscopy & Analytical Systems

Cloud-Based Multivariate Analysis for Spectrometer & Camera Data
Scalable cloud analytics for advanced spectral and imaging data interpretation.

PixelCare™ Multispectral Oral Imaging Probe
Advanced Oral Health Screening with RGB + UV Illumination

I2R Labs Compact Spectrophotometer Module
Core Spectral Engine for Embedded and Portable Optical Systems

Cuvette-Based Spectrophotometer
Compact Optical System for Precision Liquid Analysis

Liquid Test Probe
Smart Optical Sensing for Rapid Liquid Analysis

Petri Dish Spectrophotometric Reader
Non-Contact Reflective Spectroscopy for Surface-Based Analysis

Hybrid Spectro-Microscope System
Integrated Optical Platform for Stone, Surface & Biological Analysis

AI / ML & Computer Vision

Retail Analytics

Object Recognition

Automatic Number Plate Recognition (ANPR)

OCR – Optical Character Recognition

Image labelling tool

Yield Estimate

Face Recognition

Face Mask Detection System

Healthcare & Diagnostics

Pixel care connect app
A unified digital platform connecting PixelCare devices, data, and insights in one secure app.

Infrared Thermometer with Bluetooth
Beyond Temperature – A Smarter Way to Monitor Health

Wearable Ring Oximeter
Continuous Oxygen and Heart Rate Monitoring, Even While You Sleep

Smart Body Composition Scale
Beyond Weight – Discover Your Wellness

2-in-1 ECG and Blood Pressure Monitor
Your Heart's Rhythm and Pressure, Perfectly Measured

Pixel Care Digital Stethoscope
Next-Gen Digital Auscultation Device

ENT Check
Digital Ear, Nose & Throat Examination Device

PixelCare All-in-One Diagnostic Device
Revolutionizing compact, modular health monitoring in a single handheld device.

PixelCare I2R-DS300
High-precision 3D depth sensing for non-contact body and surface analysis.

PixelCare I2R-Micro
Skin and surface microscopy module for detailed visual examination.

PixelCare I2R-TC260
Integrated thermal imaging for advanced health and wellness monitoring.

PixelCare Connect – Wellness Division

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Where Pixels Connect to Care

PixelCare Connect is more than a product brand — it is a connected wellness ecosystem built on years of engineering experience at I2R Labs.

Delivered as a wellness mobile application and digital health platform, PixelCare Connect brings together diagnostics, monitoring, devices, and intelligence under one unified experience.

SmartScan
smartphone-based and strip-based diagnostic workflows

VitalCam
contactless vital parameter monitoring

DeviceSync
integration with ECG, CGM, oximeters, stethoscopes, and wellness devices

Lifestyle Tracking
health, activity, and wellness insights

Pixel Vault
smartphone-based and strip-based diagnostic workflows

SDKs & APIs
Food Scan, wearable APIs, and developer integration

PixelCare Connect translates advanced engineering into accessible, everyday health tools.

Platform & App Experience

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The PixelCare Connect app enables individuals, families, and healthcare professionals to:

- Monitor vital parameters and wellness indicators
- Connect medical and wellness devices seamlessly
- Track health data longitudinally
- Receive AI-driven insights and trends
- Support remote and cloud-based health monitoring

For healthcare providers and enterprises, PixelCare Connect offers real-time visibility, analytics, and scalable health intelligence — enabling preventive and personalized care models.

Platform & App Experience

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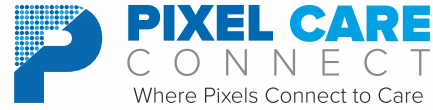
Behind PixelCare Connect lies the full technological strength of I2R Labs.
Key enabling technologies include:

- Spectroscopy platforms for compact diagnostics and analytical systems

- Embedded and IoT architectures for reliable data acquisition & connectivity

- AI/ML pipelines for analysis, pattern recognition, and insights

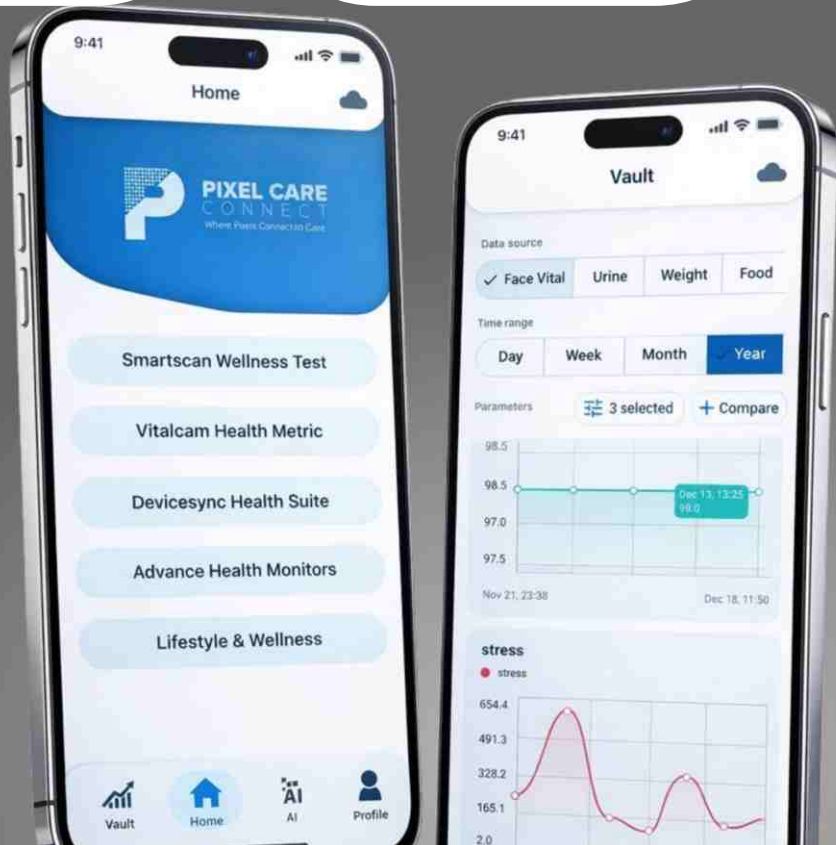- Cloud and mobile platforms for scalability and accessibility

From portable diagnostics to mobile-first wellness platforms, I2R Labs focuses on engineering healthcare systems that are preventive, personalized, and scalable.

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Global Engineering, Credentials & IP Strength

A defining milestone for I2R Labs has been its role as technology development partner for one of the world's smallest spectrometer platforms, delivering the complete hardware, firmware, and software stack. The platform was showcased at SEMICON Taiwan, reinforcing the company's international deep-tech credibility.

In addition, I2R Labs has executed a formal IP assignment for a portable IVD diagnostic system developed for a European partner — demonstrating export-grade engineering maturity and structured technology transfer capability.

Founder & Leadership

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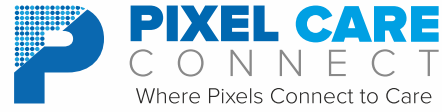
Balakrishnan T P
Founder & CEO of I2R Labs

Founded I2R Labs in 2009, Balakrishnan brings deep industrial experience since 2000, spanning electronics, embedded systems, spectroscopy, AI-driven platforms, and regulated medical technologies.With a hands-on engineering background, his work focuses on building end-to-end systems — from hardware and firmware to software, analytics, and real-world deployment — with strong emphasis on reliability, scalability, and long-term platform thinking.Under his leadership, i2r Labs has collaborated internationally on medical devices, diagnostics, spectroscopy solutions, and IP transfer, translating advanced engineering into deployable healthcare and industrial products.

This founder-led technical governance ensures architecture continuity, engineering rigor, and long-term platform evolution across all initiatives.

Trusted By Industry & Institutions

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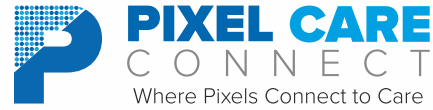
I2R Labs' engineering platforms and solutions have been trusted by organizations across healthcare, infrastructure, and industry, including:

Doctors Without Borders (MSF)

Bangalore International Airport (BIAL)

DRDO

Network Rail (UK)

Trista Sciences (HCG Group)

Suguna Foods

Pacific Control Systems

Shriram Rayons

Thank You!

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