

# **N50 PROJECT OVERVIEW:**

## **OFFLINE | DEEP EDGE LLM FOR RURAL COMMUNITIES**

**Note: The Offline LLM project with the N50, is currently in development. If you are interested in piloting this solution in your community, please submit an inquiry to [Kevin@n50project.org](mailto:Kevin@n50project.org) for consideration.**

**Project Title:** Bridging the Digital Divide - Offline | Deep Edge LLM for Rural Education and Health

### **Executive Summary:**

The N50 Project, a consortium of over 220 global companies, proposes the development of an offline | deep edge Large Language Model (LLM) tailored for local context in education and health, targeting rural areas with limited internet access. This innovative solution addresses the growing digital divide between the 5 billion online users and the 3.1 billion without access. Leveraging open-source data and fine-tuned models, our offline LLM will provide equitable access to quality education and healthcare information, empowering underserved communities.

### **Problem Statement:**

The lack of persistent connectivity and limited access to quality teachers and physicians in rural areas exacerbates the digital divide. Existing online LLMs, like Llama 3, trained on 15 trillion tokens (equivalent to reading 65 million books), are inaccessible to these communities.

### **Solution Overview:**

Our offline LLM solution will:

1. Utilize open-source data sets
2. Fine-tune models for localized applications (education, healthcare, agriculture)
3. Deploy trained models on small-form-factor compute/servers in rural communities
4. Operate independently without API/cloud access or incremental costs

### **Objectives:**

1. Develop, test, and ready the offline | deep edge LLM for production

2. Partner with N50 consortium members committed to this project include:  
Intel, Arizona State University, and World Wide Technology
3. Conduct pilot testing in either Uganda, Guadalajara, Zambia, or the Dominican Republic.- Note that we are open to other areas if you are interested. These are N50-ready areas.
4. Monitoring and Evaluation producing a white paper with measured results from an accredited research institution
5. Productize and integrate the solution into a ready-to-deploy N50 Connectivity Kit

**Key Benefits:**

1. Equitable access to quality education and healthcare information
2. Bridging the digital divide for 3.1 billion underserved individuals
3. Enhanced community development and economic growth
4. Improved health outcomes and education quality

**Implementation Plan:**

1. Development and testing (6 months ending Dec) – in Process and working in lab
2. Pilot deployment and evaluation (3 months – ending Mar 25)
3. White paper publication and productization (in parallel w/ #2)
4. Integration into N50 Connectivity Kit and distribution for scale (6 months)

**Partnerships and Ecosystem:**

1. N50 consortium members (220+ global companies)
2. N50, Intel, Arizona State University, and Worldwide Technology (lead partners)
3. Local ecosystem partners for L1/L2 support

**Conclusion:**

The offline LLM project offers a transformative opportunity to bridge the digital divide, empowering rural communities with access to quality education and healthcare information. We invite you to partner with the N50 Project to make this vision a reality.