Brief Sample

Targeted Headhunting for Advanced AI & Digital Twin Leadership

Client Overview

A leading local industrial company in the **electric power generation sector** seeks to recruit **two highly qualified senior professionals** to lead its newly established **Artificial Intelligence Applications Unit**.

These individuals will be responsible for architecting, developing, and scaling advanced AI-**driven maintenance systems** for the organization.

Client Objectives & Technical Scope

The client aims to internally develop advanced Artificial Intelligence applications focused on:

- **AI-based predictive maintenance and equipment health monitoring**
- **Integrated Digital Twin + AI simulation platforms**, enabling:
    - Virtual replicas of power plants and critical equipment
    - AI-driven simulations for scenario testing, optimization, and failure prediction
    - Risk-free evaluation of operational changes prior to deployment

Although several global technology providers—such as **Siemens, IBM, GE, Microsoft, Honeywell, Rockwell Automation, Oracle, and specialized IIoT firms**—offer mature

solutions in this domain, the client has strategically decided to **build the core architecture and intelligence in-house**.

This decision is driven by:

- **Cybersecurity and data sovereignty**
- **Long-term scalability and customization**
- **Reduced lifecycle cost and vendor dependency**

Such an approach requires **exceptional technical leadership** with hands-on experience in designing, integrating, and sustaining complex industrial AI systems.

Our Headhunting Search Methodology

1. Requirements Elicitation

We initiated the engagement through structured meetings with senior management and technical stakeholders to capture:

- Functional expectations
- Technical depth requirements
- Industry-specific constraints (power generation context)

These inputs were translated into **precise technical search criteria**.

2. Technology-Driven Talent Mapping

Rather than relying on traditional CV databases alone, we adopt our **technology-intelligence-led search approach**, centered on real technical contributions.

Patent Landscape Analysis

We identified and screened **relevant CPC (Cooperative Patent Classification) clusters**, focusing on domains where approximately **90% of relevant inventions reside**, including:

- **Control & automation:** G05B, G05D
- **AI & machine learning:** G06N, G06F, G06Q
- **Industrial sensing & diagnostics:** G01M, G01H, G01C, G01D, G01R
- **Industrial data & connectivity:** H04L, G06K, G16Y
- **Rotating equipment & engines:** F01D 25/, *F02D /*

Boolean logic was applied across these CPC clusters to generate a robust initial dataset.

3. Patent Network & Cluster Analysis

We generated **visual patent-network diagrams** to:

- Detect technology clusters and dominant solution themes
- Identify key inventors and organizations shaping the field
- Reveal relationships between predictive maintenance, digital twins, and AI modeling

This step often highlights **true technical leaders** who consistently contribute across multiple related inventions.

4. Scientific Literature Expansion

To extend coverage beyond patents, we conducted **Boolean searches across refereed journals and conference proceedings**, capturing:

- Cutting-edge academic-industrial research
- Emerging methodologies not yet patented

5. Domain-Specific Filtering

From the global dataset, we further narrowed the scope to work explicitly related to:

- **Power generation plants**
- **Turbines, generators, rotating machinery, and balance-of-plant assets**

6. Expert-Led Manual Screening

Two successive manual filtration stages were conducted by **external senior technical experts** in the same discipline.
A **ranking methodology** was applied based on:

- Depth of contribution
- Relevance to industrial deployment
- Leadership and system-level thinking

This process yielded a **high-confidence cluster of candidates** aligned with the client's needs.

7. Candidate Intelligence Database

We developed a structured database including:

- Inventors and senior researchers
- Organizational affiliations
- Job titles and leadership roles
- Educational background and specialization
- Links to CVs, personal websites, and key publications

8. Targeted Role Profiles

From this dataset, we prioritized candidates with proven expertise in one or more of the following roles:

- **Industrial Data Scientist / Machine Learning Engineer**
- **Digital Twin / Simulation Engineer**
- **Industrial IoT (IIoT) & OT Integration Engineer**
- **MLOps / Industrial AI Platform Engineer**
- **Industrial AI Product Manager / Solutions Architect**

9. Career & Influence Tracking

For shortlisted individuals, we further analyzed:

- Career progression and leadership trajectory
- Key conferences and technical forums they actively engage in
- Academic lineage (for professors), including tracking high-impact students and spin-off talent

10. Final Deliverable

The engagement concludes with a **concise executive report** presenting:

- Shortlisted candidate profiles (17 potential candidates)
- Strategic hiring recommendations
- Role alignment rationale

The report is presented to the client for **discussion, validation, and final selection decisions**.

Note on Complementary Expertise

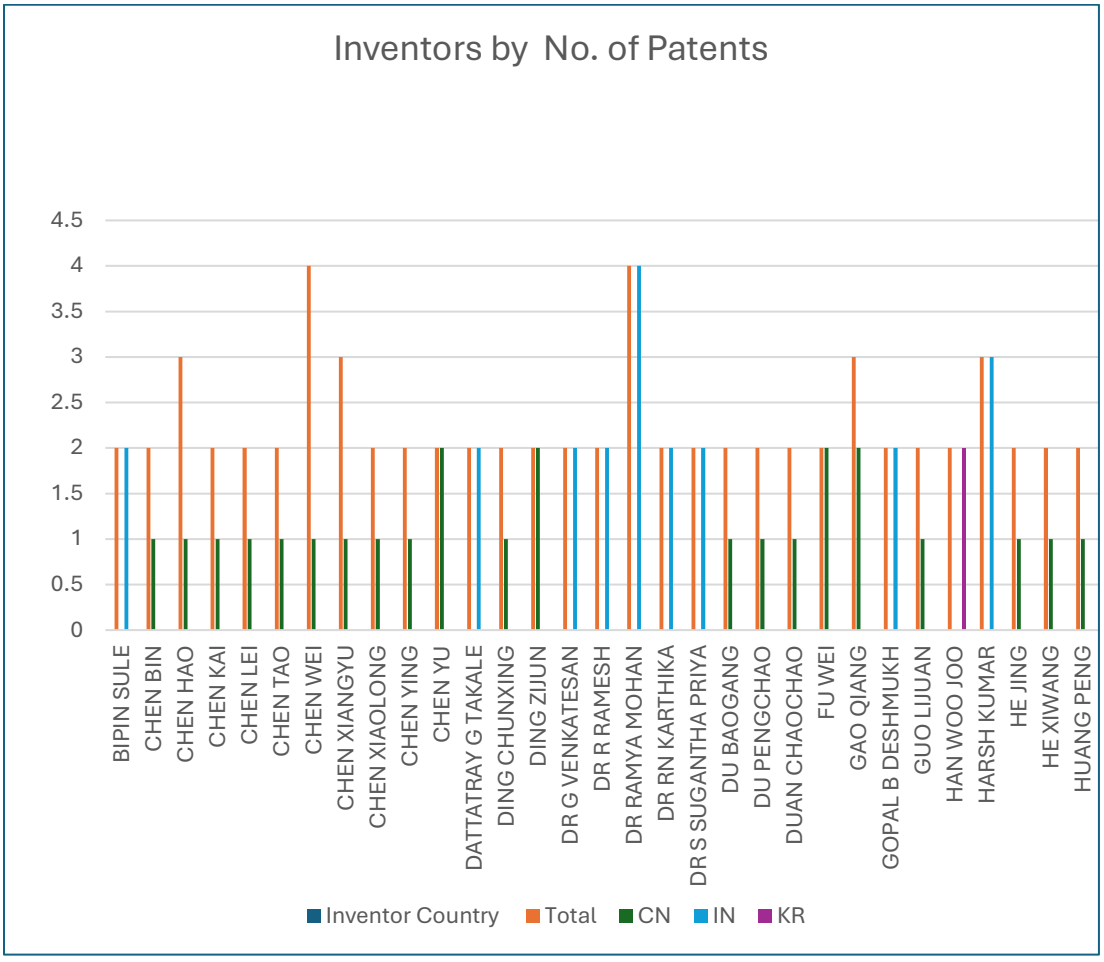
The client confirmed existing internal availability of supporting roles, including:

- Reliability & Asset Integrity Engineers
- Condition Monitoring & Vibration Specialists
- Controls, Automation, and SCADA Engineers
- Data Engineers
- Mechanical & Electrical Engineers (Equipment SME)

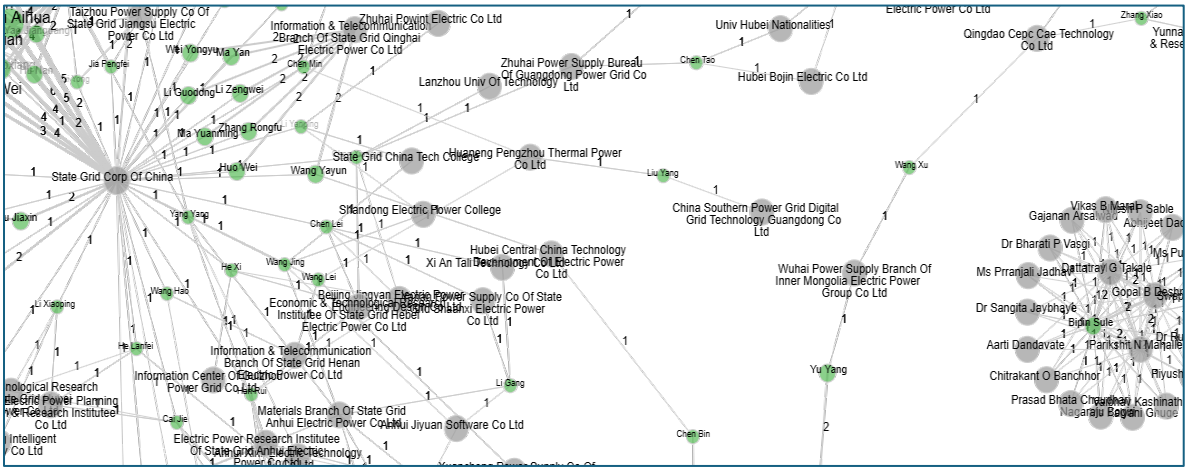
These resources will be integrated into the program as needed, under the leadership of the selected candidates.

Illustrative Outputs (Samples)

Patent examples: AI-based digital twin predictive maintenance models for power plants



Patent-network visualizations highlighting technology clusters



Sample organizations holding recent high-impact patents