**📑 Proposal: HMI View Selector v5.1.2**

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**Executive Summary**

Over the past several months, I have independently designed, developed, and Tested the **HMI View Selector v5.1.2** application on my assigned fleet. This tool has already demonstrated measurable improvements in **fleet reliability, operator efficiency, and equipment protection**, directly addressing recurring operational challenges in frac operations.

With its proven success, I propose that Liberty formally adopt this tool as a supported internal solution. Furthermore, I seek to expand my role into **Automation/Software Engineering** where I can continue building, improving, and supporting such innovations for the company at scale.

**Problem Statement**

Liberty’s frac operations face consistent challenges that impact uptime and profitability:

* **Turbo Failures on MTU 16V4000 G S engines**
  + Cost: $40,000–$60,000 each, plus downtime and lost stages.
* **Dynamic IP Assignments**
  + Operators struggle to locate and connect to pumps without IT support.
* **Multiple HMI Instances**
  + Running several HMIs on a single computer wastes resources and causes instability.
* **Operator Workload & Human Error**
  + Crews must manually monitor turbo temps, diverting attention from critical operations.

**The Solution – HMI View Selector v5.1.2**

I developed **HMI View Selector v5.1.2** to directly address these issues.

**Key Features & Benefits**

1. **Prime Turbo Temp Monitor**
   * Real-time turbo temp monitoring with auto-fan activation.
   * Prevents costly turbo failures and reduces downtime.
2. **Dynamic IP Range Scanning**
   * Automatically locates pumps, regardless of changing (dynamic) IPs.
   * Eliminates IT intervention for subnet management.
3. **Single HMI Control**
   * Ensures only one HMI runs at a time.
   * Saves hardware costs and prevents system conflicts.

**Proven Results (Fleet Testing)**

* **Reduced Turbo Failures** → No failures during monitored stages, preventing ~$50k+ losses.
* **Increased Operator Efficiency** → Crews no longer manually monitor temps; focus remains on operations.
* **Lower IT/Hardware Costs** → Reduced demand for multiple computers and IT troubleshooting.
* **Improved Compliance & Security** → Only authorized users can modify system-critical parameters.
* **Fleet Scalability** → Expanded support up to 48 pumps with stable performance.

Estimated annual value per spread: **$200,000–$500,000+** in cost avoidance and efficiency gains.

**My Contributions**

* I independently built the application from the ground up (multiple iterations, v1.0 → v5.1.2).
* Identified recurring operational pain points from field experience and designed direct solutions.
* Integrated technical disciplines: networking, Modbus communications, engine safety, and user security.
* Field-tested successfully on my fleet.

This project demonstrates not just my technical capability, but also my ability to connect **real-world operational needs** with **effective software solutions**.

**Strategic Recommendation**

* **Adopt HMI View Selector v5.1.2 on Prime fleets** as a Liberty-supported internal solution.
* **Establish a formal role for myself** within the Automation/Software Engineering group, where I can:
  + Continue development (v5.2.x auto-restart feature, advanced analytics, secure comms).
  + Provide field-driven insight to align software design with real operations.
  + Collaborate with existing software teams to accelerate deployment.

**Closing Statement**

I’ve already delivered a working, cost-saving solution that protects Liberty’s fleet and operators. With formal support, I can scale these innovations across the company, delivering millions in potential annual savings. I respectfully request the opportunity to transition into Automation/Software Engineering so that I can continue to create, improve, and support the software solutions Liberty needs to remain the industry leader.