The Complete “Plug-and-Play” Software Platform for Real-Time, PC-Based Motion Control & Machine Vision

The KINGSTAR Soft Motion Platform is an open and standards-based, integrated platform that enables engineers to design, develop, and integrate applications with either KINGSTAR’s soft motion library and software PLC or third-party software. Using a single industrial PC enhanced by the power of a real-time operating system (RTOS) for 64-bit Windows, and leveraging the EtherCAT standard, you can deliver software-only motion controllers and machine vision positioning systems quickly and cost effectively.

<table>
<thead>
<tr>
<th>User Interface</th>
<th>Windows HMI Application</th>
</tr>
</thead>
<tbody>
<tr>
<td>Machine Control Logic</td>
<td>User Real-time Application</td>
</tr>
<tr>
<td>Dedicated Logic</td>
<td></td>
</tr>
<tr>
<td>Motion Control / Vision System</td>
<td></td>
</tr>
<tr>
<td>Auto Configuration</td>
<td></td>
</tr>
<tr>
<td>Network Protocol</td>
<td></td>
</tr>
<tr>
<td>64-bit Windows RTOS</td>
<td></td>
</tr>
</tbody>
</table>

**REDUCE COSTS**  
Replace hardware with software to reduce machine control costs by 25-50%.

**SPEED TIME-TO-MARKET**  
Improve productivity with pre-integrated motion libraries and EtherCAT auto-configuration.

**IMPROVE UX**  
Build a powerful UI with a world-class Windows Interface (HMI).

**ENHANCE PERFORMANCE**  
Improve performance and control by using the PC NIC, Ethernet cables and EtherCAT infrastructure.

**SCALE DYNAMICALLY**  
Auto-configure an EtherCAT network when swapping any servo drives and I/O devices.

**EXTEND EASILY**  
Add any 3rd party protocols or open-source libraries with no vendor lock-in.

The KINGSTAR Soft Motion Platform provides the most comprehensive set of product options:

- **KINGSTAR Soft Motion**  
  Deliver superior quality with pre-integrated and tested motion libraries that provide precision motion positioning performance.

- **KINGSTAR EtherCAT**  
  Integrate custom motion control on an auto-configured EtherCAT network for any servo or I/O device.

- **KINGSTAR Soft PLC**  
  Powered by ISaGRAF, monitor app management and deployment from an intuitive HMI on an industrial PC.

- **KINGSTAR Machine Vision**  
  Powered by Matrox, run their imaging library (MIL) for real-time image capture and processing on 64-bit Windows.

- **IntervalZero RTX64**  
  Replace hardware FPGAs & DSPs with software that transforms 64-bit Windows into a real-time OS.
Rapidly deliver PC-based industrial machine controllers with precision performance and superior quality at half the cost of hardware.

**KINGSTAR Soft Motion Platform**

**MOTION**
- Enables coordinated motion at 125 microsecond intervals
- Up to 3 cores for dedicated motion control
- Machine control API for real-time precision and accessible from Visual Studio

**VISION**
- Perform image capture, processing and analysis using GigE
- Run Matrox Imaging Library (MIL) natively on IntervalZero’s RTX64 RTOS
- Partition a MIL app to run on RTX64 and Windows for response-critical parts

**NIC**
- RTX64 dedicated

**PLC**
- Windows dedicated

**HMI**
- Shared Memory and SMP

**INDUSTRIAL PC**

- Conduct real-time application processing up to 63 cores on a PC
- Scale up with x86/x64 to create next-gen products
- Up to 128 priorities for thread scheduling
- Full control over process load balancing
- Double performance every 18 months

**KINGSTAR Soft Motion**

**KINGSTAR EtherCAT**

**KINGSTAR SoftPLC**
- Transform your industrial PC into a PLC with an intuitive HMI
- Handle all motion control and machine vision automation tasks
- Rely on modularity and ruggedness for real-time use

**KINGSTAR Machine Vision**

**KINGSTAR RTOS**
- Double performance every 18 months

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