



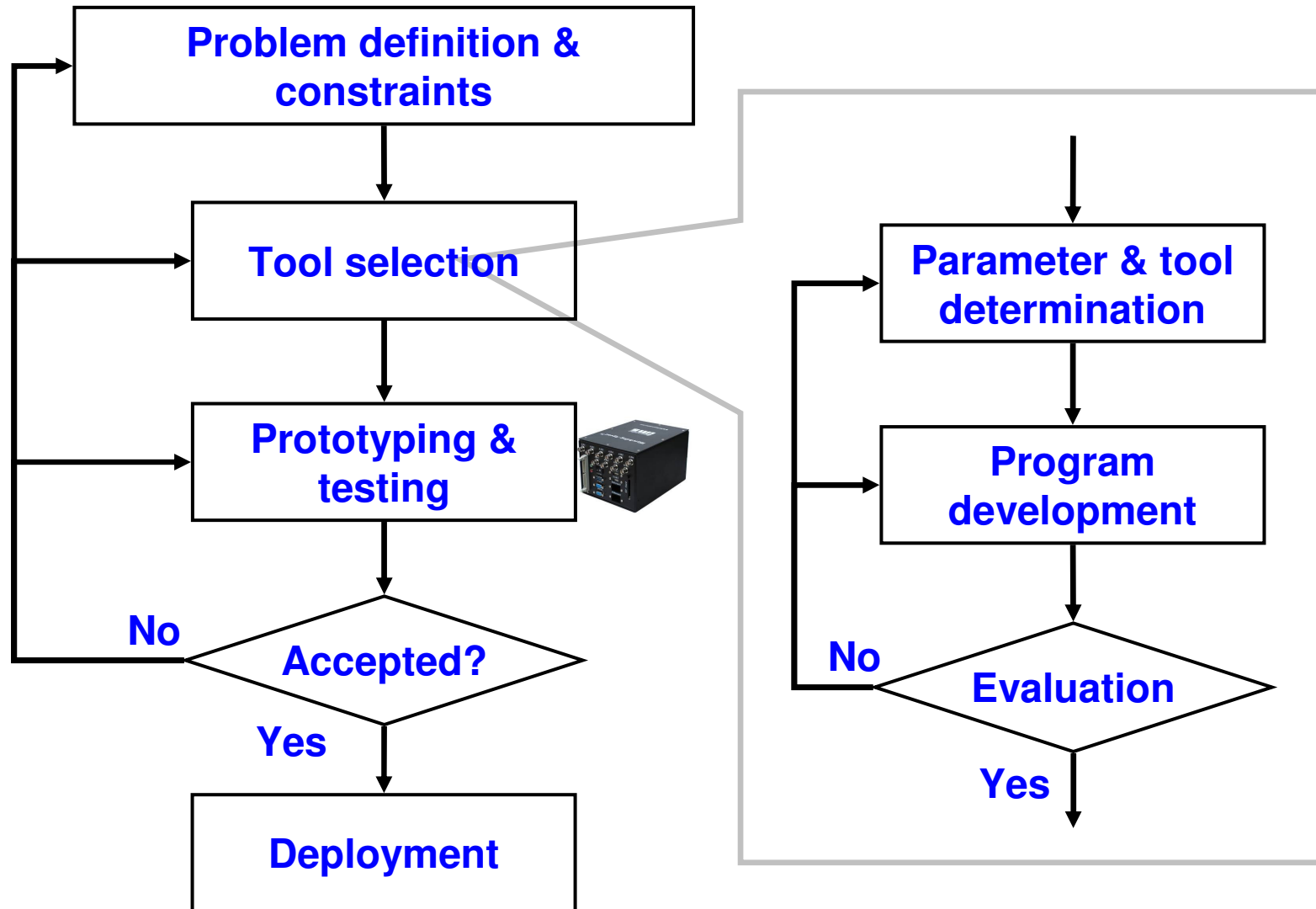
IMS Reconfigurable Watchdog Agent™ Prognostics Hardware Platform

Outline

- **Background**
- **Hardware Platform**
- **System Architecture**
- **Hardware Specifications**
- **Application**

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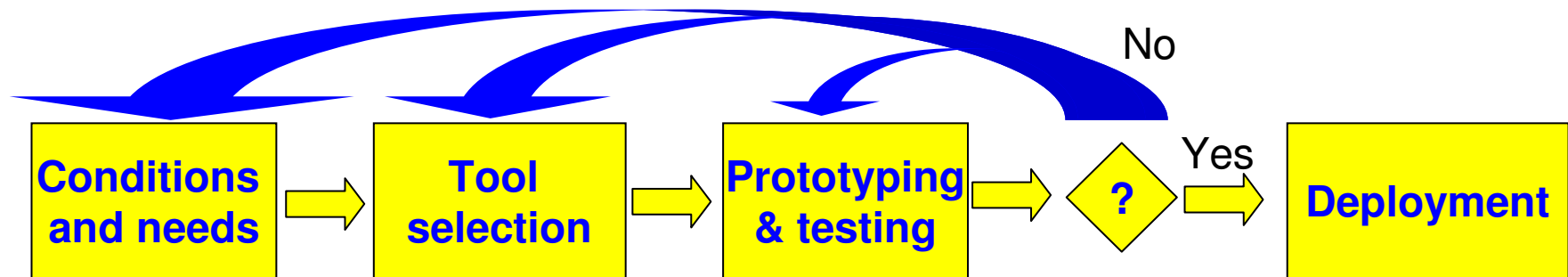
IMS Approach on Rapid Prognostics Prototyping



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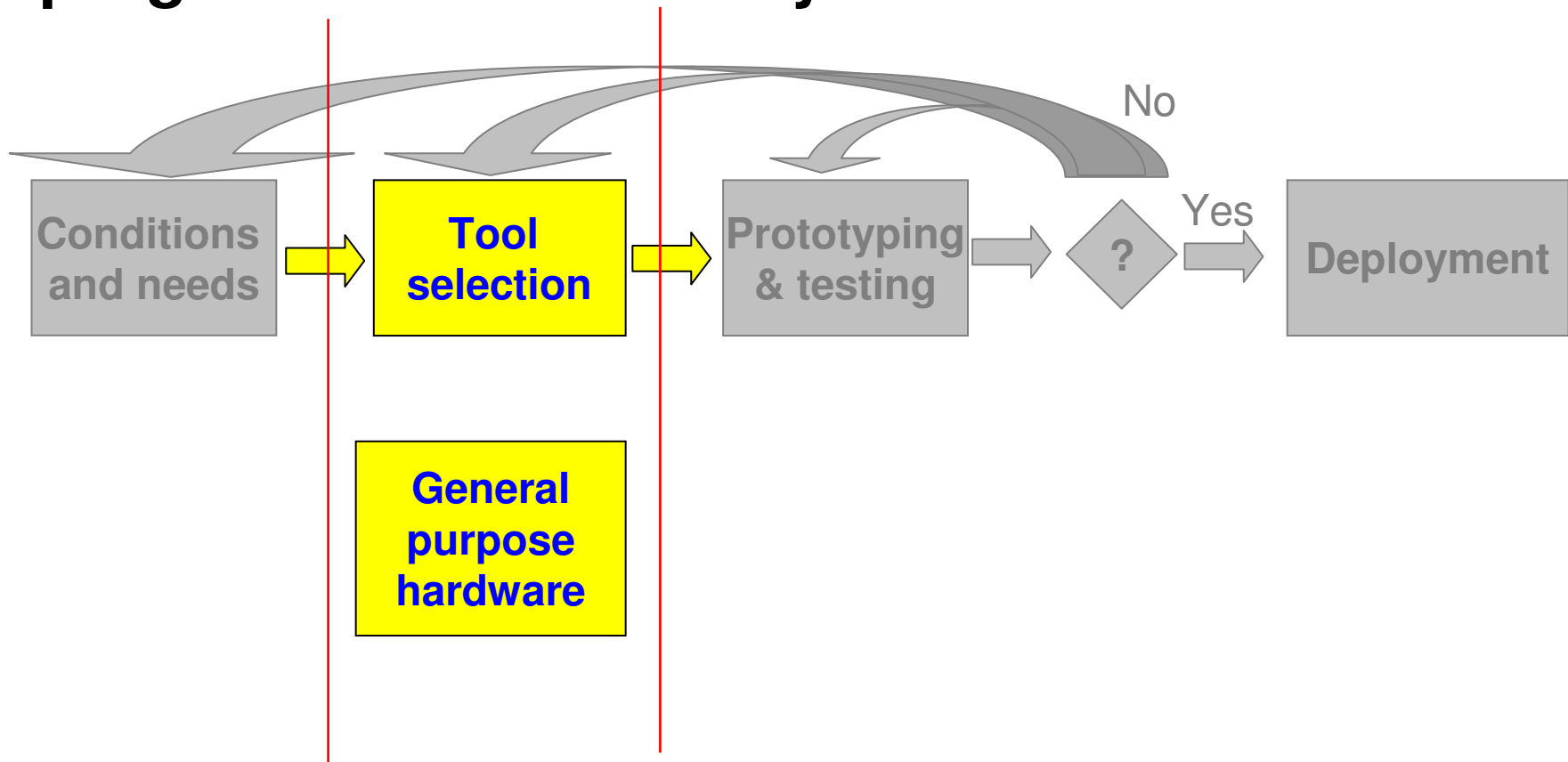
Hardware Platform

How can companies work with IMS rapidly to develop a customized Watchdog Agent™ prognostics tools and system?



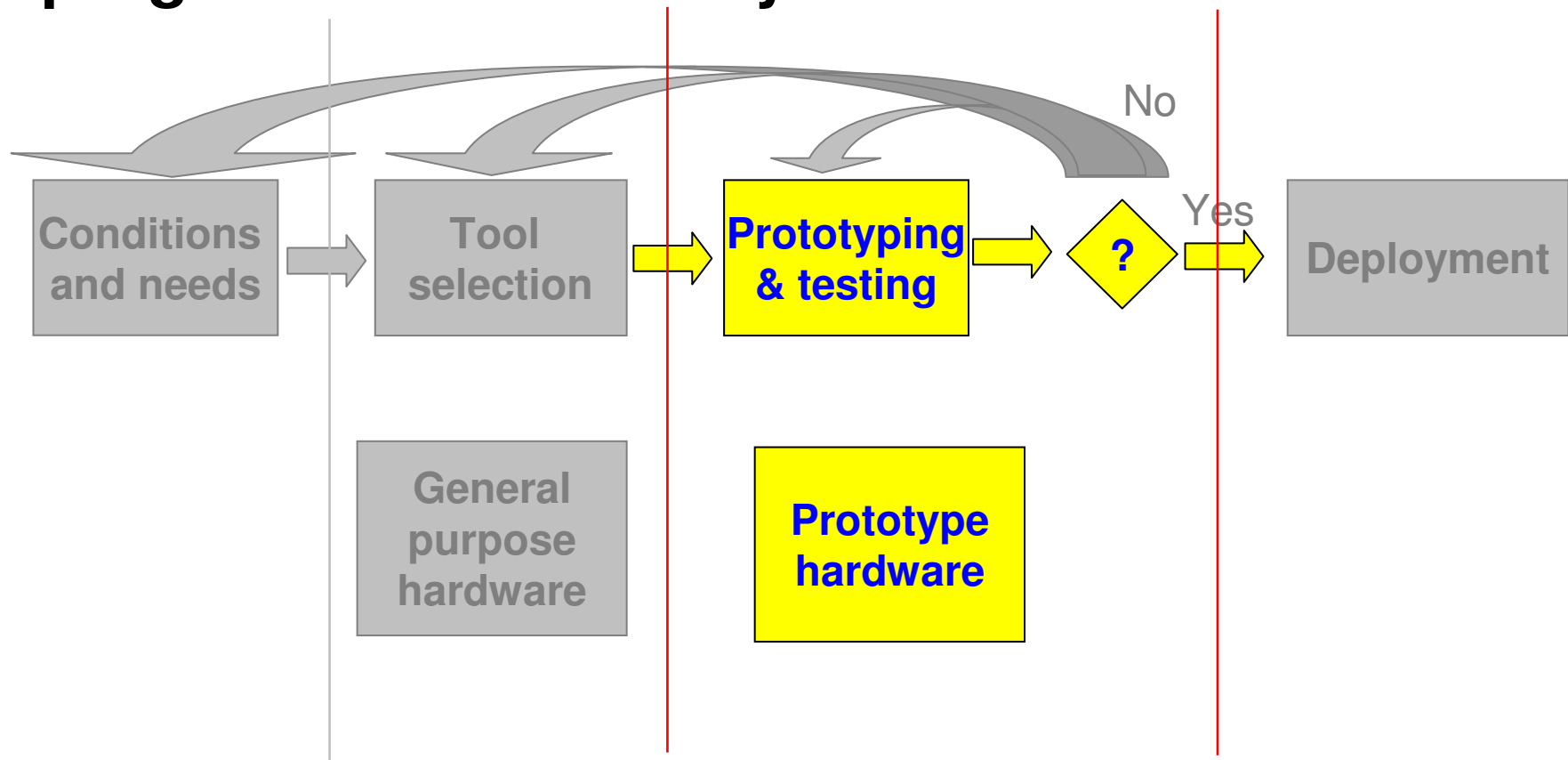
Hardware Platform

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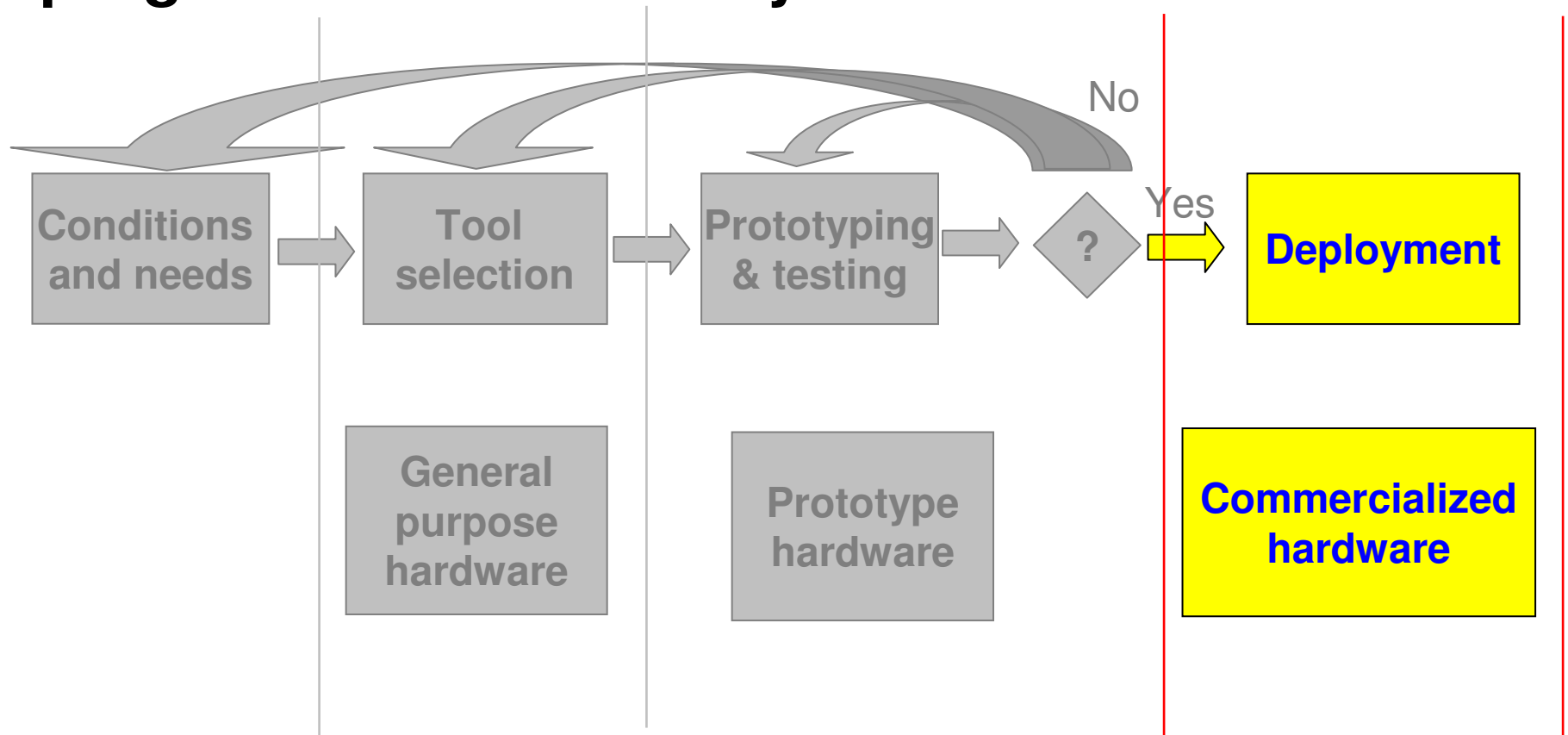
Hardware Platform

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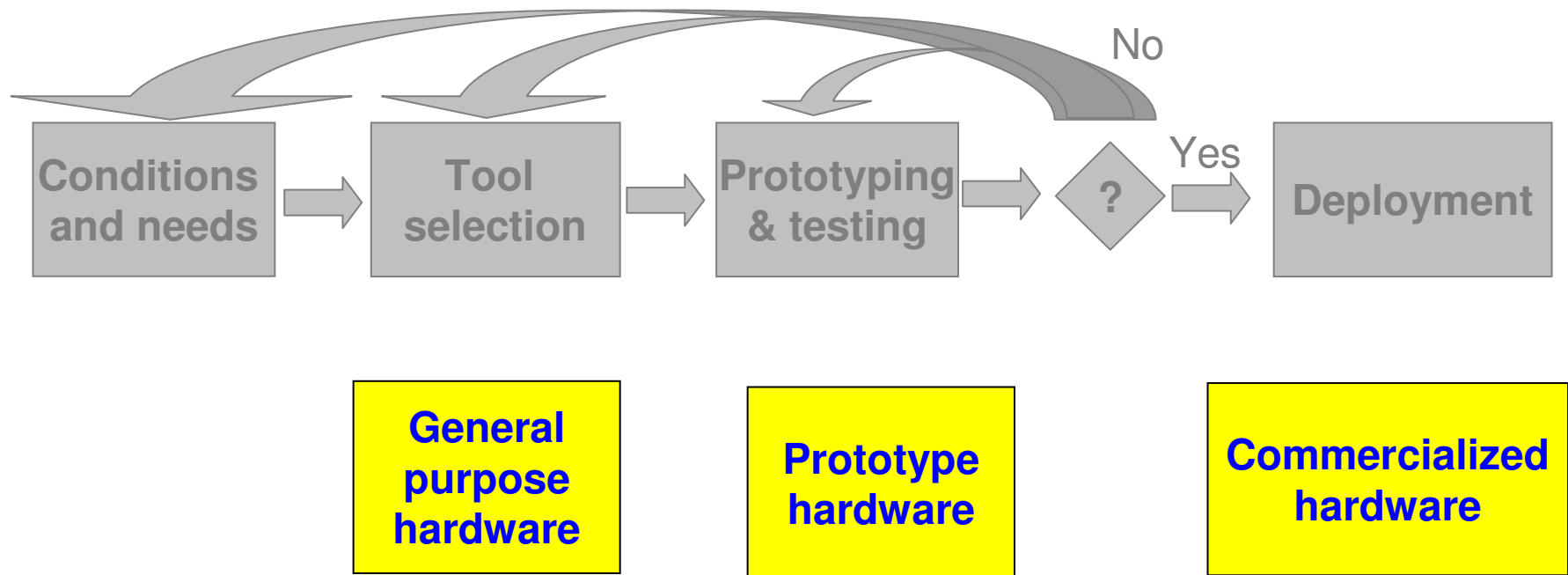
Hardware Platform

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Hardware Platform

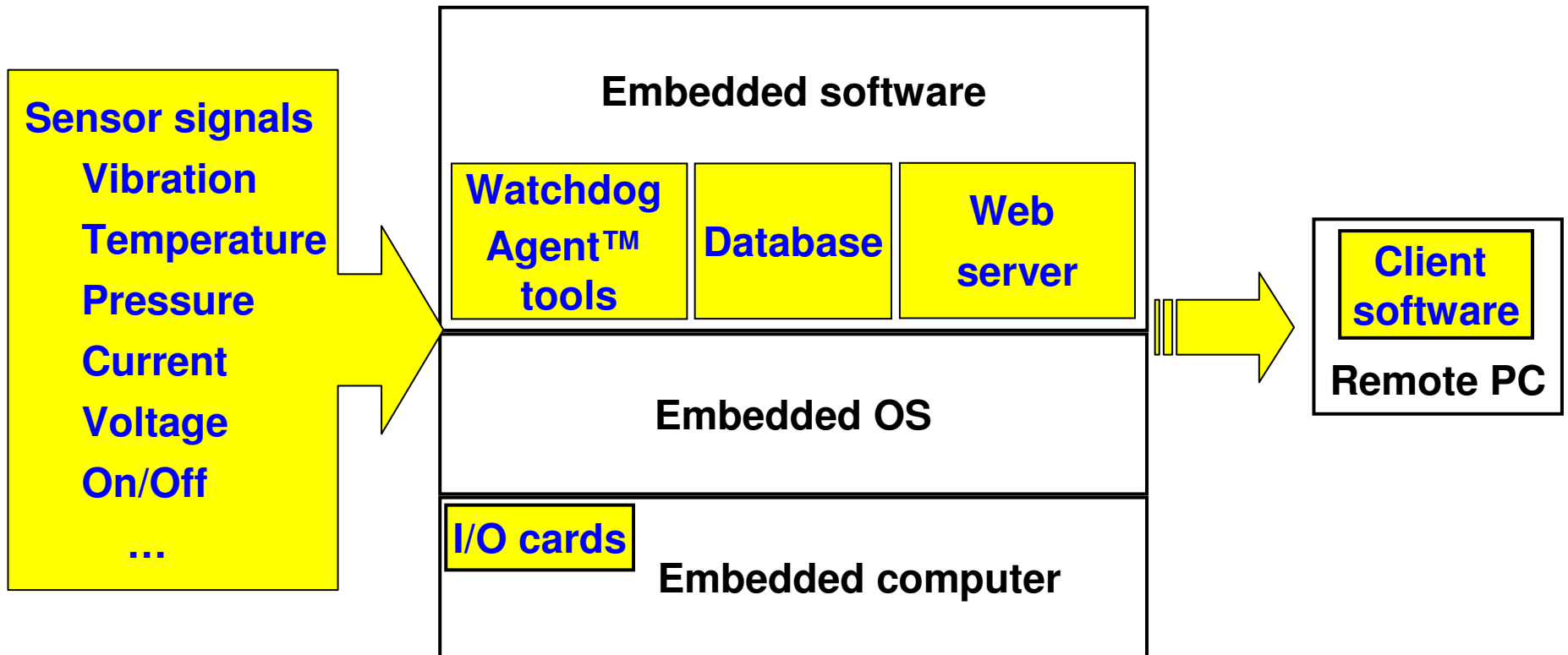
How can companies work with IMS rapidly to develop a customized Watchdog Agent™ prognostics tools and system?



- **Build reconfigurable prototype hardware platform**
 - **Test Watchdog Agent™ tools**
 - **Further understand how to customize for a specific application**
- **Evaluate potential commercially available system**

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System Architecture



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Hardware Requirements

Signal
type

Tools
selected

Working
environment

- Analog input
- Digital input
- Second Ethernet port
- RS 232/485/422
- CPU
- System memory
- Storage
- Temperature range
- Water proof
- Fanless design

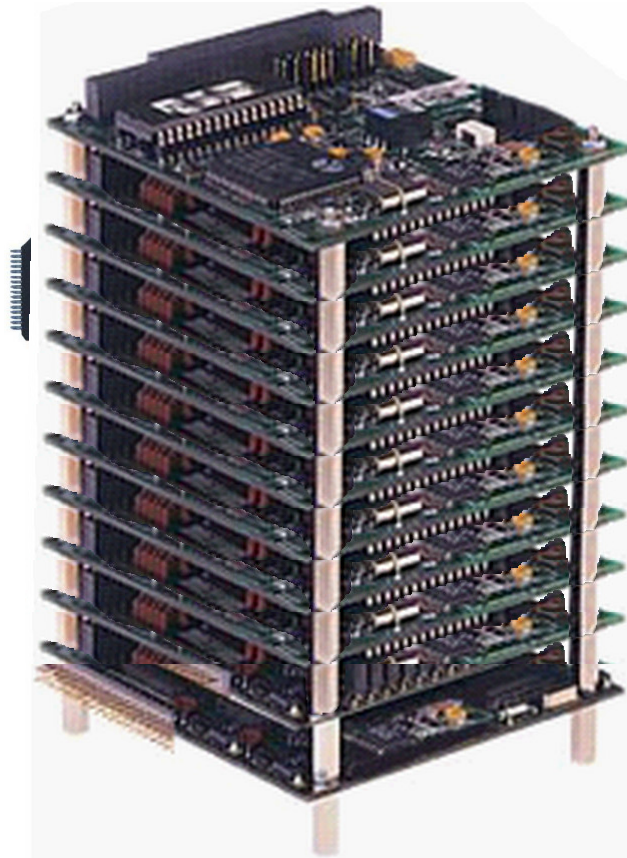
Reconfigurable Prototype Hardware

- PC104 architecture
- VIA Eden 400 CPU, 128MB MEM
- DAQ features
 - 16-channel, 16 bit 100KHz analog input
 - 4-channel analog output
 - 24 DI/DO, 2 counter/timers
- Dual network interface
- Spindle-free storage (no HDD)
- Fanless design
- Extended temperature range



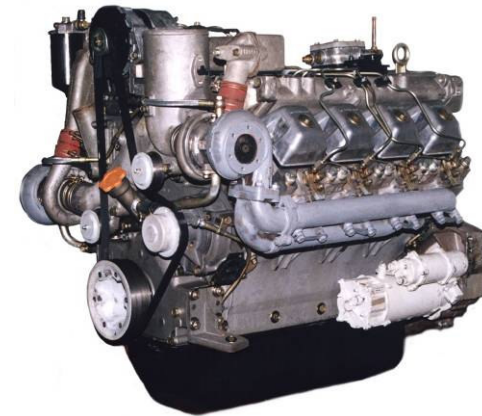
Reconfigurable Prototype Hardware

Expansion capacity



Applications....

Expansion capacity



Commercially Available System

Rockwell Automation

Advantech

Omron

Siemens

ETAS

National Instruments

Yokogawa

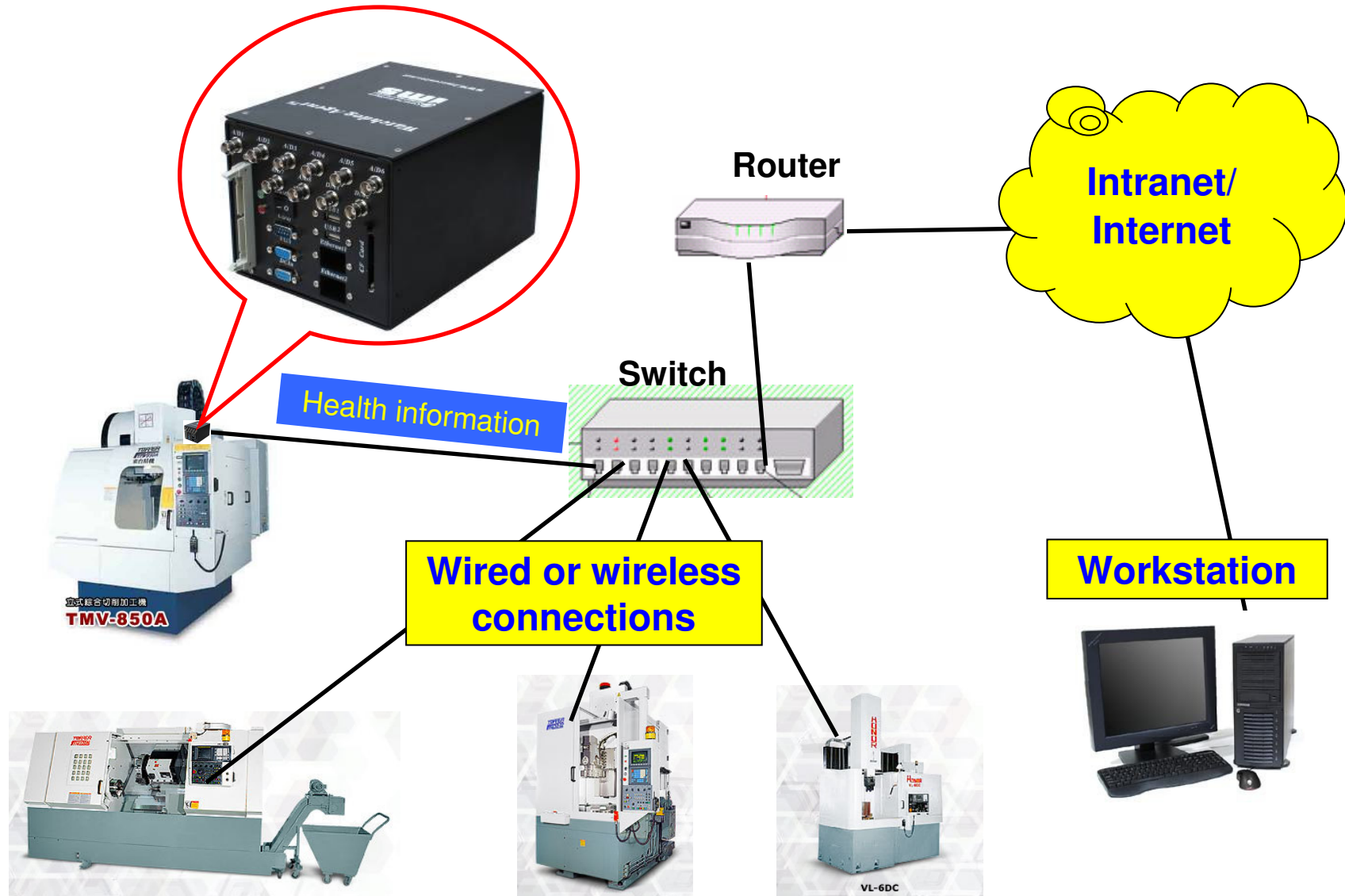
etc.

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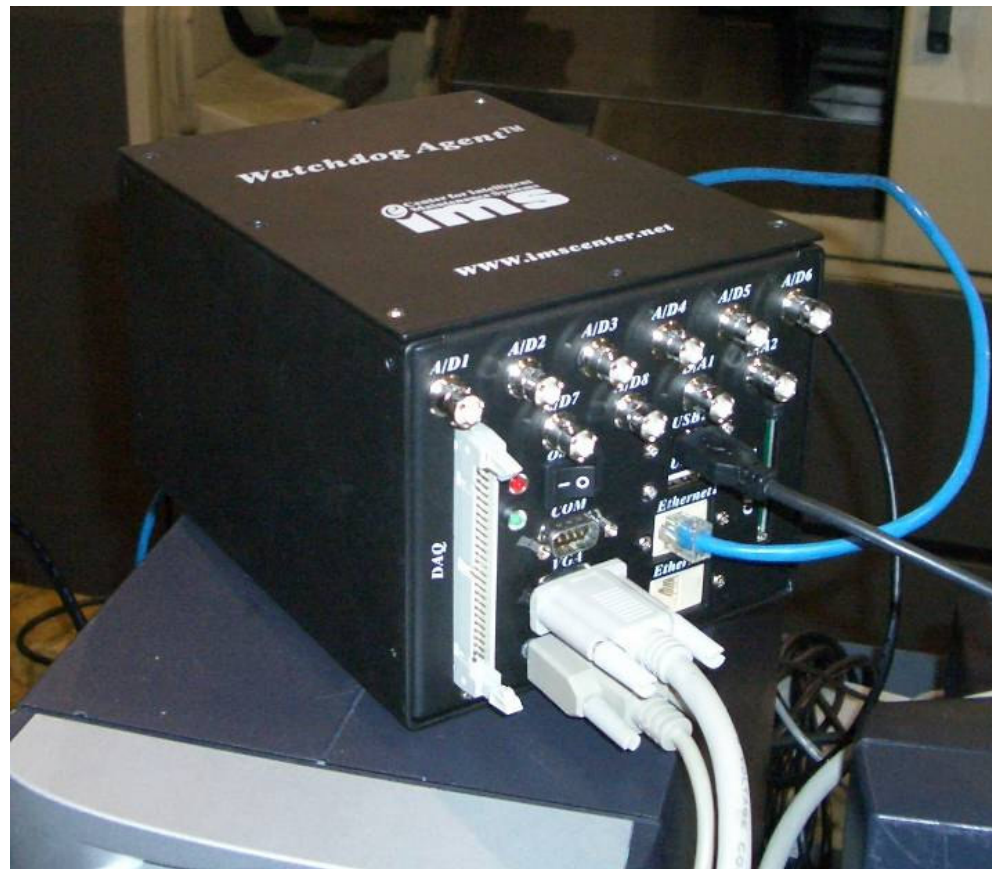
Application on Smart Machine Tool



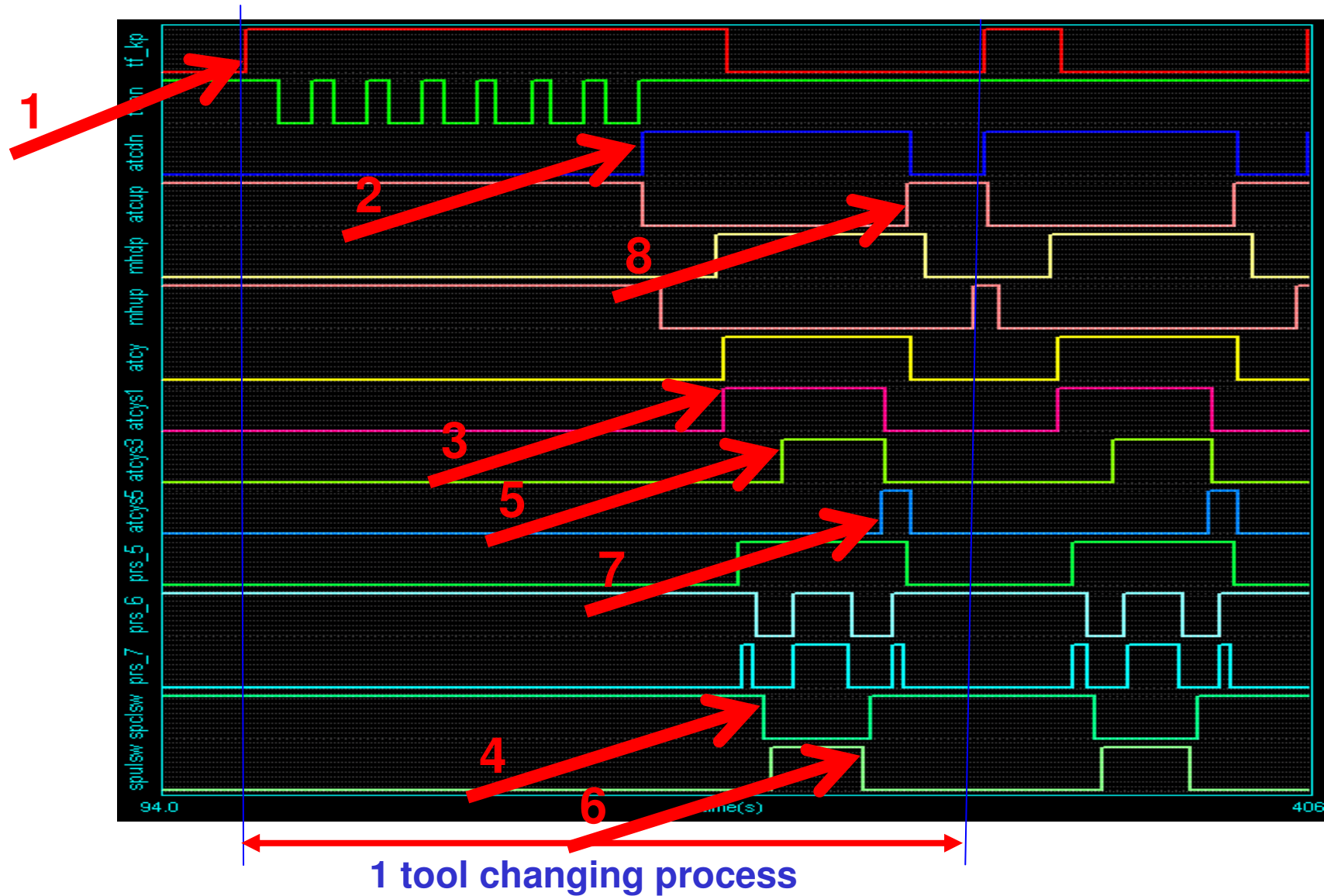
Application on Smart Machine Tool



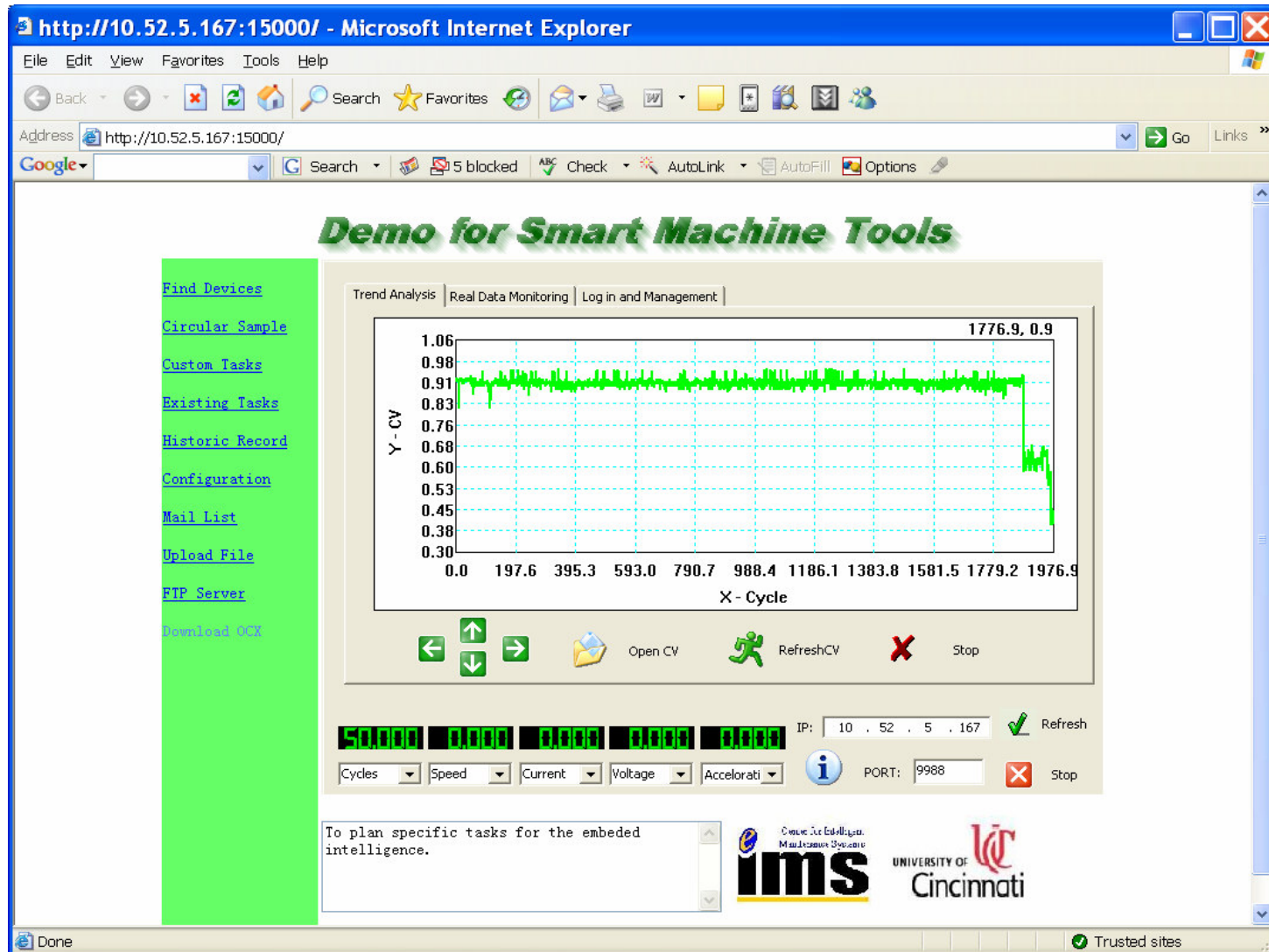
Application on Smart Machine Tool



Automated Tool Changer (ATC) Signals



Remote Monitoring and Health Performance Assessment





Questions?



Thank You !

For More Information
Please visit:
<http://www.imscenter.net>