

invenSys
Foxboro

I/A Series System

Secure Your Future.



USER John Menger
LOG OUT

Alerts **8**

Priority 1

Tank B

Critical H

Priority 1

Pump 2

Critical H

Priority 2

Pipe 24

Low Press

Priority 2

Mixer 10

Power Fail

Priority 3

Pipe 136

Low Press

Priority 2

Mixer 11

Power Fail

Priority 2

Sensor 7

Offline

Priority



Delivering Control Excellence
Using Continuously Current Technology



Secure your future. I/A Series—the best choice for today and tomorrow.

The I/A Series system offers more than you would expect from a DCS

The I/A Series system is the most proven process automation system available today, offering unique Continuously Current technology and unmatched industry know-how, with decades of innovations.

Since its inception in 1987, the I/A Series system has been infused with innovative technologies while providing interoperability and co-existence with previous generations, as well as providing superior migration of other vendor's offerings. This ensures that customers' investments are protected and leveraged as we continuously improve our offerings to address current and future industry challenges. In short, as your needs continue to evolve, so does the I/A Series system. No other DCS offering can offer this track record of success.

Today's successful industrial operations require much more than just safely controlling a process. To remain competitive, driving control excellence across your entire plant operation is critical. Both the business operations and its production processes need to be optimized for efficiency and profitability. The I/A Series system has evolved to become an integral component of Invensys' InFusion Enterprise Control System—offering the open integration, visibility and workflow capabilities to optimize virtually all of your industrial and people assets using a single system. The result is true Control Excellence—optimal plant and business control for efficiency and maximum profitability.



In combination with other InFusion components, the I/A Series system gives you a collaborative environment that can span your entire enterprise to enable real-time decision-making.

Superior Integration of all Your Assets

one common object technology across your entire enterprise— from process control up to the operations management level and out to third party systems

Unparalleled System Performance & Reliability

powerful tools with top to bottom fault-tolerant architecture and high performance Mesh Network

A System that Fits Your Needs

The flexibility to implement scalable, fit for purpose solutions

Intuitive and Predictive

makes your job easier enabling confidence of real-time decision-making and confident, real-time decision-support

Optimized Lifecycle & Sustainability

- Award winning, Plug-in Migration & Modernization solutions designed to minimize cost, risk, and process impact
- A system that evolves with your needs and protects your investments— Continuous Current
- Lowest cost of ownership

Trusted Partner

- Control and industry experts for project management and execution, local service, and training
- 24/7 access to quality global support



Superior Integration—the I/A Series System is the Proven Foundation for Enterprise Control

How does the I/A Series system go beyond other DCS's?

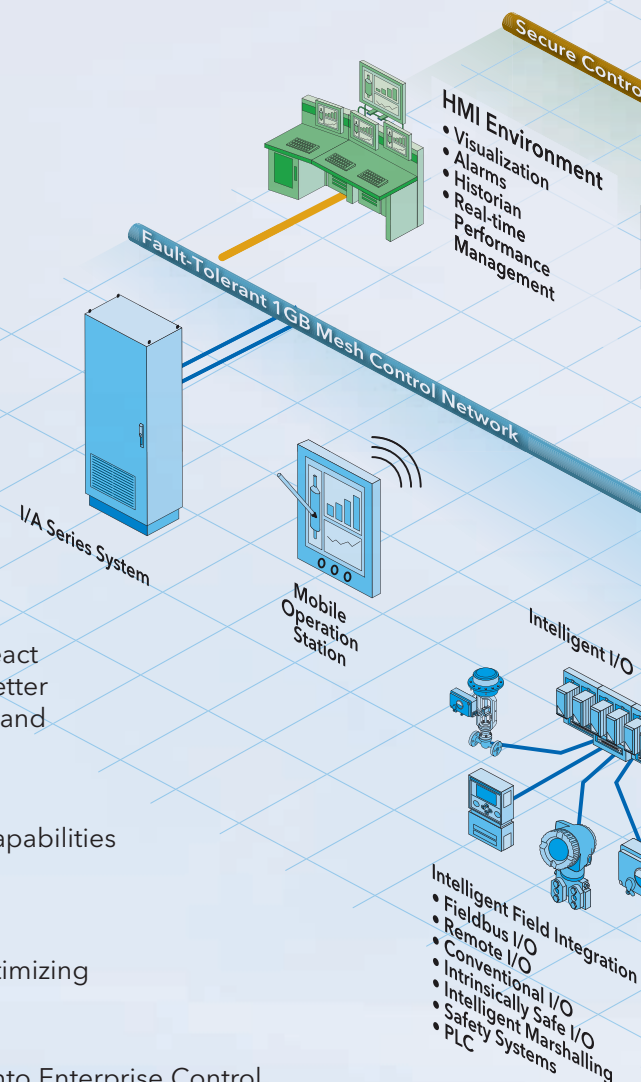
With the I/A Series system you have the choice to extend your system to be much more than a DCS. Your I/A Series control platform is embedded with a common object-based technology that simplifies the ability to unify and synchronize systems, processes, and people across your entire enterprise—not just in the control room. Components that were traditionally managed as separate systems—from your process control system data to your quality, MES, ERP, SCADA systems, etc—can now be managed within one collaborative environment. The proven Archestra technology inside of the I/A Series system makes it an integral part of a comprehensive InFusion Enterprise Control System.

Create a Holistic Picture—At Your Own Pace.

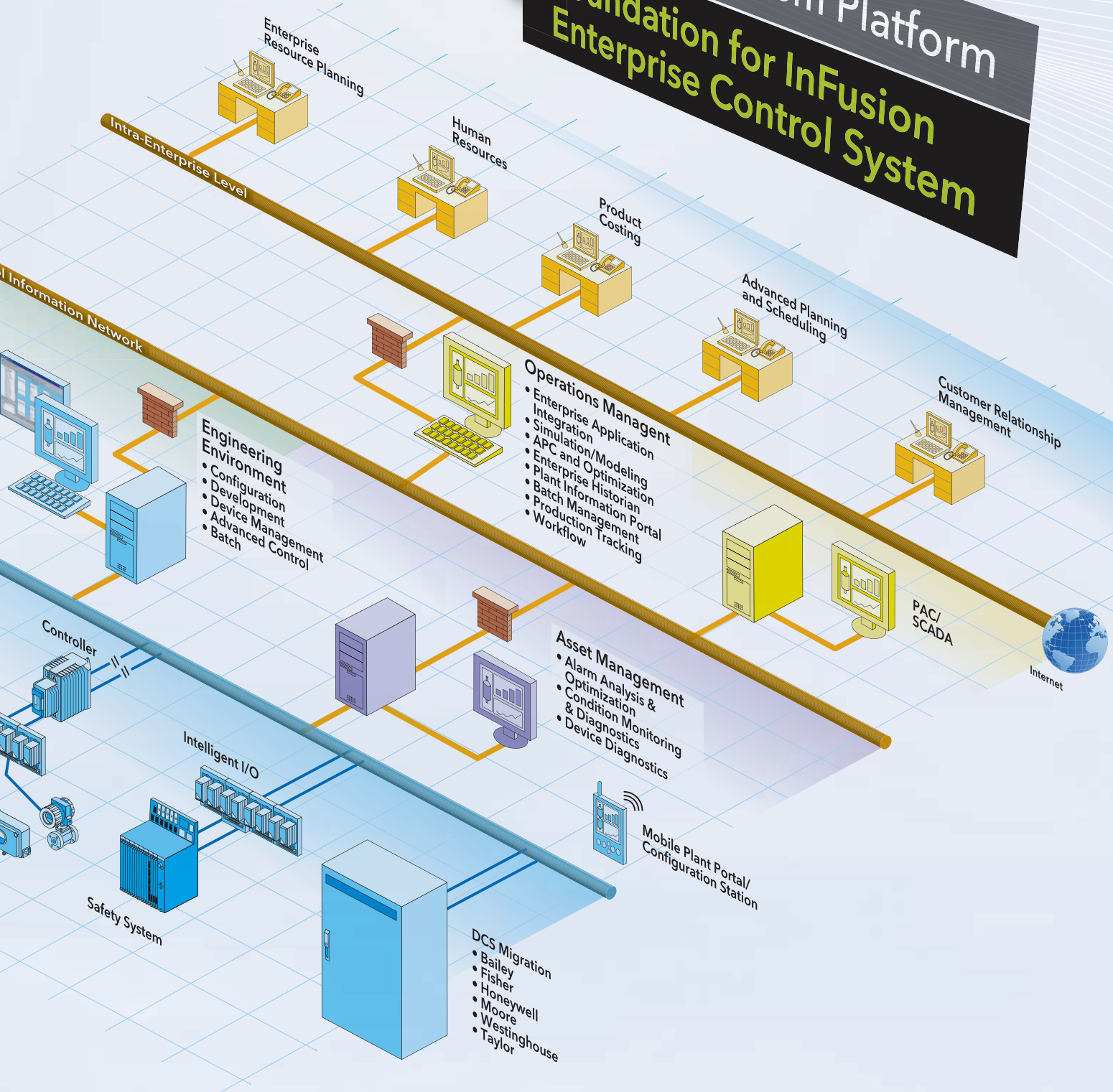
What does this mean to you? Now you are empowered to measure, optimize, and control your entire enterprise. Synchronization at this level means you can see, manage and react in one collaborative environment. Better decision-making for better results—work efficiency, and optimization of all your production and people assets for overall profitability.

- Effectively integrate & synchronize your existing systems
- Preserve your existing investments & extend them with new capabilities
- Empower your workforce & stop guess-work
- Take control of your entire production and business
- Move beyond silos of efficiency to higher effectiveness by optimizing overall profitability

As an I/A Series system user, you have the flexibility to extend into Enterprise Control capabilities that embrace your existing systems and allow you to add incremental capabilities along the way—at your own pace. With this new freedom of choice, along with the reliability of I/A Series, comes great peace of mind.



I/A Series System + ArchestrA System Platform = Foundation for InFusion Enterprise Control System



Nothing Compares—Uncompromising system performance, flexibility & reliability.

High Capacity, Security & Reliability with 'Self-Healing' Mesh Network

The I/A Series Mesh Network leverages advanced commercial communications technologies in robust industrial configurations, providing high-availability and self-healing network performance. It connects thousands of stations at gigabit data speeds between network switches and provides the bandwidth necessary for future expansions.

System scalability & flexibility

- Easily expand as your operation demands, including wireless solutions
- Huge installation cost savings with a truly distributed, network based system
- Faster throughput, with communications speeds of 1 Gb per second

Zero point of failures

- Fast response to faults and redundancy at every level
- Enhanced layer of security against internal & external threats & vulnerabilities

Cyber secure

- NERC standard compliant
- Wurltech security certified

Blazing fast, open communications

- Patented smart point-to-point data routing allowing multiple communications protocols to run simultaneously
- Standard fiber optic switch technology optimized for sub second fault detection and correction

Powerful I/A Series Controllers & Intelligent I/O

The I/A Series Control & Intelligent I/O platform combines the seamless integration of multiple control domains with a powerful set of tools to optimize your plants productivity & performance. Offering the best track record for providing high availability to the process industry, I/A Series hardware and software is engineered for non-stop operation. Fault-tolerance resides at all levels of the system, from process controllers to redundant field networks & I/O modules.

Performance-Boosting Controllers:

- High Capacity—high performance controllers for improved cost effectiveness in continuous, batch and discrete applications
- Rugged industrial packaging, resistant to environmental contamination
- Patented Fault tolerant operation and hot swappable modules with unbeatable reliability rate of 99.999958%
- Self-hosting capability eliminates reliance on PC/workstation hosting
- Plant-wide time synchronization supports exacting root cause analysis



Flexible, Intelligent I/O

Designed for highly distributed applications, I/A Series Intelligent I/O can be located where best suited to the application—in the control room or remotely distributed close to process units. Operating in conjunction with controllers, intelligent I/O modules provide for highly coordinated process management and control of continuous, batch, and discrete control schemes.

- Compact design for easy installation and small footprint—up to 70% installation cost savings
- Reliability rate of 99.99999941%
- Din rail mountable I/O allows for flexible, remote I/O solutions
- Flexible integration of other data into control strategies using Field Device System Integrator modules
- Intrinsically Safe I/O solutions designed for hazardous environments
- Plantwide integration including traditional I/O and intelligent FF, DeviceNet, HART, PROFIBUS DP and PA, FoxC
- Intelligent Marshalling with Universal I/O module offers significant lower Total Cost of Ownership



Introducing Intelligent Marshalling—a new approach to project implementation and system design.

With the Intelligent Marshalling concept, Invensys eliminates the indirect costs associated with marshalling, significantly slashing your total cost of system ownership by up to 35%. At the heart of Intelligent Marshalling is the Foxboro I/A Series Universal Fieldbus Module—a single I/O Module that contains 8 individual channels, each providing a wide range of analog, digital, pulse, frequency and HART capabilities for the field devices throughout your plant. Now each field wire can be directly landed on the I/O mounting structure and connected to the Universal Fieldbus Module.

- Reduce Equipment Costs - fewer cabinets, marshalling racks, remote instrument enclosures
- Reduce Field Labor Cost - reduce marshalling work, ½ the terminations
- Reduce Documentation - Fewer & simpler drawings
- Reduce Spare Parts - No need to stock as many types of spares
- Reduce Field Maintenance Costs - No need to send field technician to open cabinet for changes
- Per channel Software Configurable - Each channel is software configurable, eliminating the need for additional hardware to characterize the I/O type

'Any Bus—Anywhere' Fieldbus Capabilities

The I/A Series system offers a truly open automation system that interoperates with multiple device types, from multiple vendors, with multiple protocols, most commonly found in process plants. Invensys is a leading contributor and supporter of Field Device Tool (FDT) technology and proud to be a founding member of the FDT Joint Interest Group, and the first to offer both FDT and EDDL technology in a single tool. Foxboro Field Device Manager offers integrated engineering & maintenance environment reduced engineering time and increased productivity with fast and easy device configuration, commissioning and predictive asset management.



Intuitive & Supportive Technology— Empowerment to do your job better, faster and easier.

Foxboro Control Software takes control and optimization to a whole new level with intuitive graphical interfaces, innovative information displays, decision support, and time-saving engineering tools & alarm management.

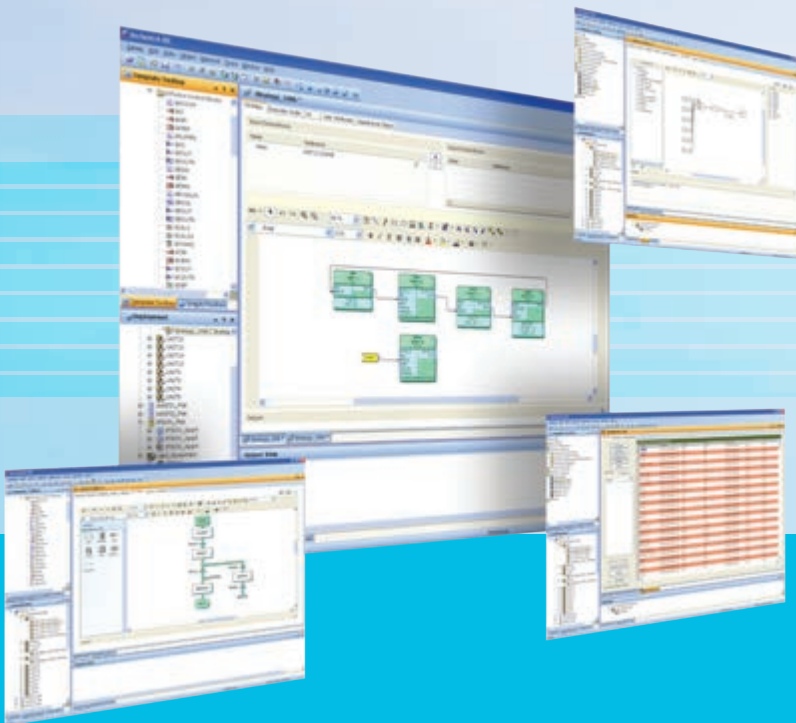
- Truly legendary ease-of-use enabling all users to quickly and easily be more productive
- Unequaled device and application connectivity—providing a unified view across virtually any device or system application
- High performance graphics with production, workflow and business applications brings the right decision support information, to the right people—at the right time

The I/A Series system redefines plant intelligence, surpassing the traditional DCS application environment to empower engineers, operators, maintenance and mobile workers to be at their best.

Integrated and Intuitive Engineering Environment

Foxboro Control Software Configuration Tools offer a highly graphical design & engineering environment that facilitates the creation of reusable application libraries. The environment supports field, I/O, controller and application workstation objects in a consistent application model and methodology.

- Reusability of designs and optimized engineering workflow
- Template-based design eases deployment and change propagation
- Built-in diagnostics and troubleshooting tools
- Rich functional libraries and ability to standardize control & operational functions
- Comprehensive back documentation, 'where-used' and configuration management tools and services



Foxboro Control Software provides intuitive and integrated engineering tools support an open environment that reduces effort, preserves existing intellectual property and minimizes errors.

High Performance HMI Environment

The Foxboro Control Software InTouch application includes easy-to-use, object oriented programmable graphics. This open and extensible HMI enables flexibility in custom application design with connectivity to the broadest set of control and automation devices in the industry. It features rapid response and selection of displays, a wide range of pre-built, pluggable faceplate displays and an integrated alarm subsystem with configurable annunciator panels. This visualization capability contains real-time information as well as historical and transactional information. The familiar, easy-to-use, expressive graphical environment supports multiple languages and standardization, making it ideally suited for multi-site, multinational operations.

- Extensible library of over 500 pre-designed 'intelligent' and customizable graphics and object symbols
- Advanced alarm management and analysis including automatic alarm shower detection and suppression, allowing your teams to focus on what is most important
- Plantwide Sequence of Events (SOE) for high resolution acquisition, storage, display, & reporting of binary events & disturbances in the plant. Quickly and easily determine what happened first in a plant trip sequence, and take the right corrective action.

Powerful System Management

Powerful diagnostics, predictive maintenance and system management tools help drive maintenance productivity over the entire life-cycle of your plant.

Intuitive system management tools use a multi-pane environment to report the health and status of the system. By providing both current and historical information for trending and profiling process equipment, this application offers rapid identification and isolation of equipment problems. It also offers a central control panel for monitoring all individual system components that may impact the system's integrity, ranging from printer ports to network switches to field instrumentation. This ensures robust system management in a consistent context.

Asset Performance Management

Focused, real-time equipment performance, reliability, maintenance and decision support information for all asset types.

Advanced Control & Optimization

SimSci-Esscor integrated simulation, optimization, training, and advanced model predictive control software and services work seamlessly with I/A series systems.

- FSIM Plus is a "Virtual Simulation" of the I/A Series Control Processor software. FSIM dramatically reduces the time to commission and helps control engineers to validate designs with superior quality without the need for I/A Series controller hardware.
- SimSci-Esscor APC provides model predictive advanced process control (APC) in order to improve process profitability by enhancing quality, increasing throughput, and reducing energy usage.
- ROMeo® is an advanced, multi-unit modeling environment delivering on-line optimization applications to help users obtain peak financial performance from their operating units and entire plants.



Offering the longest life-cycle and proven system sustainability—the I/A Series system evolves with your needs.

The 'Continuously Current' Advantage— An innovative way to sustain and evolve your system

Since the release of the I/A Series system in 1987, Invensys has kept the promise of providing world-class technology evolution and support, while providing you with a path of continued system performance and enhancement. As automation and information system technologies evolve, the 'Continuously Current' philosophy of I/A Series continues to provide your production enterprise with new capabilities that keep you competitive—all in a seamless and cost effective way. This ensures that your investments are protected and leveraged. In short, as your needs evolve so does the I/A Series system.

The Invensys Advantage Upgrade Program helps you to maximize your initial investment by bridging new technology to your existing system, avoiding costly, risky and time-consuming retrofits. We help you preserve intellectual property by utilizing existing infrastructure and control strategies, effectively minimizing downtime, while enhancing performance with new upgrades.

So why not partner with a global leader, with a proven track record in managed life-cycle support and with the best record of 'Continuously Current' technology development?

The "Continuously Current" philosophy of I/A series ensures your investment is protected and you can always upgrade to Invensys' newest innovations.



This combination of unmatched automation lifecycle management and easy, affordable upgrades is not available from any other supplier in the industry. Unlike other suppliers, the I/A Series system is designed to evolve in a fashion that existing products communicate and co-exist across different technological generations.

You get a forward-thinking roadmap for planning your future automation investments. With an I/A Series system, you will clearly know the support phases for each of your system components, and Invensys notifies you of all transitions. The I/A Series technology compatibility model preserves your intellectual property, while removing barriers to performing selective upgrades. You also get guidelines that help you in budgeting and planning upgrades years in advance. Access all of this information and more, 24/7, on our global support website.

DECADES OF INDUSTRY FIRST INNOVATIONS



1950s

First Successful
Magnetic Flowmeter
First All-Solid-State
2-wire Electronic
Control System (EC)



1960s

The World's First
Computer-based
Process Data
Acquisition System
Invented "Block"
Concept for
Control Software



1970s

VIDEOSPEC and
INTERSPEC
Provided a Truly
Digital System
with Serial
Communications
SPEC 200, the
World's First
"Splitarchitecture"
Electronic Control
System



1980s

I/A Series System—
the World's First
Open Industrial
System with
Real-Time
Object Manager
Redundant/
Fault-tolerant Control
Processors and
Nodebus—New-wave
Ethernet Technology

1990s

1994 EXACT MV
Introduced as the
First Controller to use
Robust Adaptive
Multivariable &
Feed-Forward
Control
Inverted Real-Time
Economic
Performance
Measurement
Ethernet "Home Run"
Fieldbus Network



21st Century

Legacy DCS Plug-in Migration
Self-healing 1GB Mesh Network
Anybus Fieldbus Integration
InFusion Enterprise Control
Intrinsically Safe I/O
Cyber Secure I/A Series
Continuously Current 100 Series
Upgrade Program
Wireless Network
Foxboro Control Software HMI &
Engineering Tools
Intelligent Marshalling

Trusted Partner for the life of your plant. Innovative technology and products— Invensys provides innovative know how, people and services.

A holistic approach to designing, implementing, sustaining and improving operational performance through a comprehensive portfolio of services.

Consulting	Project Execution	Learning	Operational Improvement	Maintenance and Support
Support & Sustainability	Project Management	Product Training	Asset Performance Management	Business Value Solutions
Technical Support	Project Engineering	Value-added	Automation Performance	Business Process Analysis
Hardware Maintenance	System Implementations	Operator Effectiveness	Enterprise Integration	Enterprise Control Strategy
Software Maintenance	Configuration/Installations		Safety & Compliance	System Design
Remote Monitoring	Enterprise Integration		Cyber Security	Performance Assessments
Onsite Services			Process Optimization	Industry Solutions

Providing a true competitive edge—industry know-how right in your backyard

Creating partnerships that allow you to get the most out of your investments and leverage your resources can provide your business a great competitive advantage.

A strategy that encompasses the correct balance between people, processes and technology will enhance productivity, maximize asset performance and extend your investments. Invensys is your partner across the entire life-cycle of your business, from consulting, project implementation to learning and support services. We have a team of experts that includes Invensys and endorsed partners that bring unparalleled experience in bringing innovative solutions to you.

Your single source for MAC project integration, implementation, and installation

Invensys has been a leader at executing Main Automation Contractor jobs worldwide through its innovative Intelligent Engineering approach. Also, through our Collaborative Services Delivery framework, we have experience in coordinating multi-national Engineering, Procurement, and Construction (EPC) companies located on different continents to ensure that tight schedules, budgets and expectations are met.

Our staff of certified project managers and value consultants are ready to collaborate with clients in the very early phases, as well as across the entire project cycle for MAC projects.

Collaborative Services Delivery

Invensys' Collaborative Services Delivery is an approach that assures that our clients have the best team of resources across its ecosystem of partners delivering their projects. Since no single vendor can provide the portfolio of solutions required to address every end-to-end process, its framework is designed to overcome this challenge in order to deliver optimal results.

Intelligent Engineering and Innovative Project Delivery

Intelligent Engineering is enabled by innovative Invensys technology and people—the applied experience, skills and know-how of our delivery engineers, and facilitated through a strong project delivery methodology. As an I/A Series user, you can count on:

- Reduced Project Cycle-time
- Reduced Project Risk
- Improved Quality
- Greater Consistency

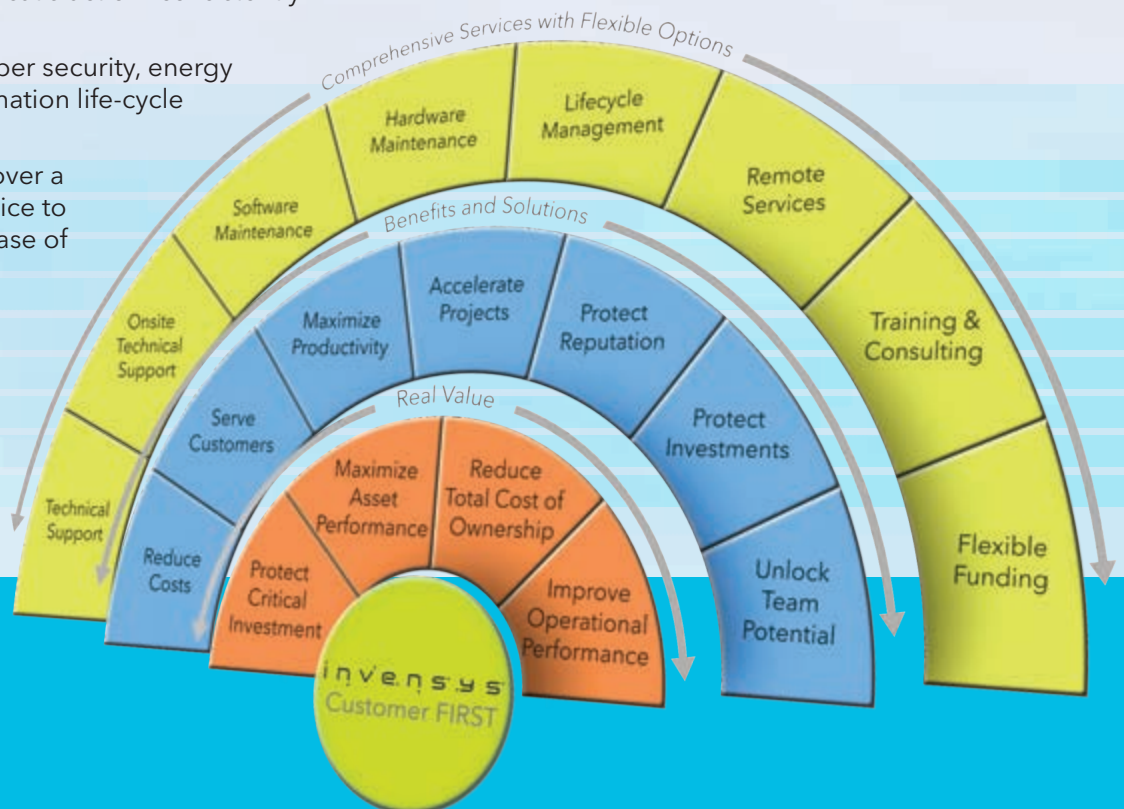
Peace of Mind—Customer FIRST Program

The Invensys Customer FIRST Support and Services Program helps you protect and extend the value of Invensys products and solutions. The program offers you the flexibility to choose standardized service offerings in four tiers: Elite, Premium, Standard and Primary. Customer FIRST also provides access to a wide range of additional optional services that provide an integrated approach to address four key areas:

- Protect Critical Investments
- Maximize Asset Performance
- Reduce Total Cost of Ownership
- Improve Operational Performance

A Global Network of Human Innovation to Serve You

- 2,500 global employees delivering excellence in Consulting, Project, Learning & Support Services
- Local support infrastructure around the world
- Certified & Endorsed Partner Ecosystem resources to compliment and extend Invensys staff
- Innovative & flexible Customer FIRST program designed for your support needs
- Industry-leading, automation life-cycle management & upgrade services
- Impeccable customer satisfaction—consistently ranking above 97%
- Industry experts in cyber security, energy management & automation life-cycle planning
- Proven track record—over a 100 year years of service to our global installed base of 35,000 customers



Award-winning modernization solutions for your operations—lowering your risk and your costs.

Modernize to an I/A Series system at a fraction of full replacement costs and with lower risk and downtime.



When the time is right for you, Invensys has an easy, cost-effective path from your existing legacy systems, to the latest I/A Series system.

The best-in-class Plug-in Migration approach minimizes the high cost, high risk and extended downtime of typical replacement solutions.

I/A Series I/O modules are available as form-fit replacements for your legacy system. Keep the existing termination assemblies, cabinets, power supplies and I/O racks. Add new controllers and workstations, and you have a 100% new, modern and fully warranted I/A Series system.

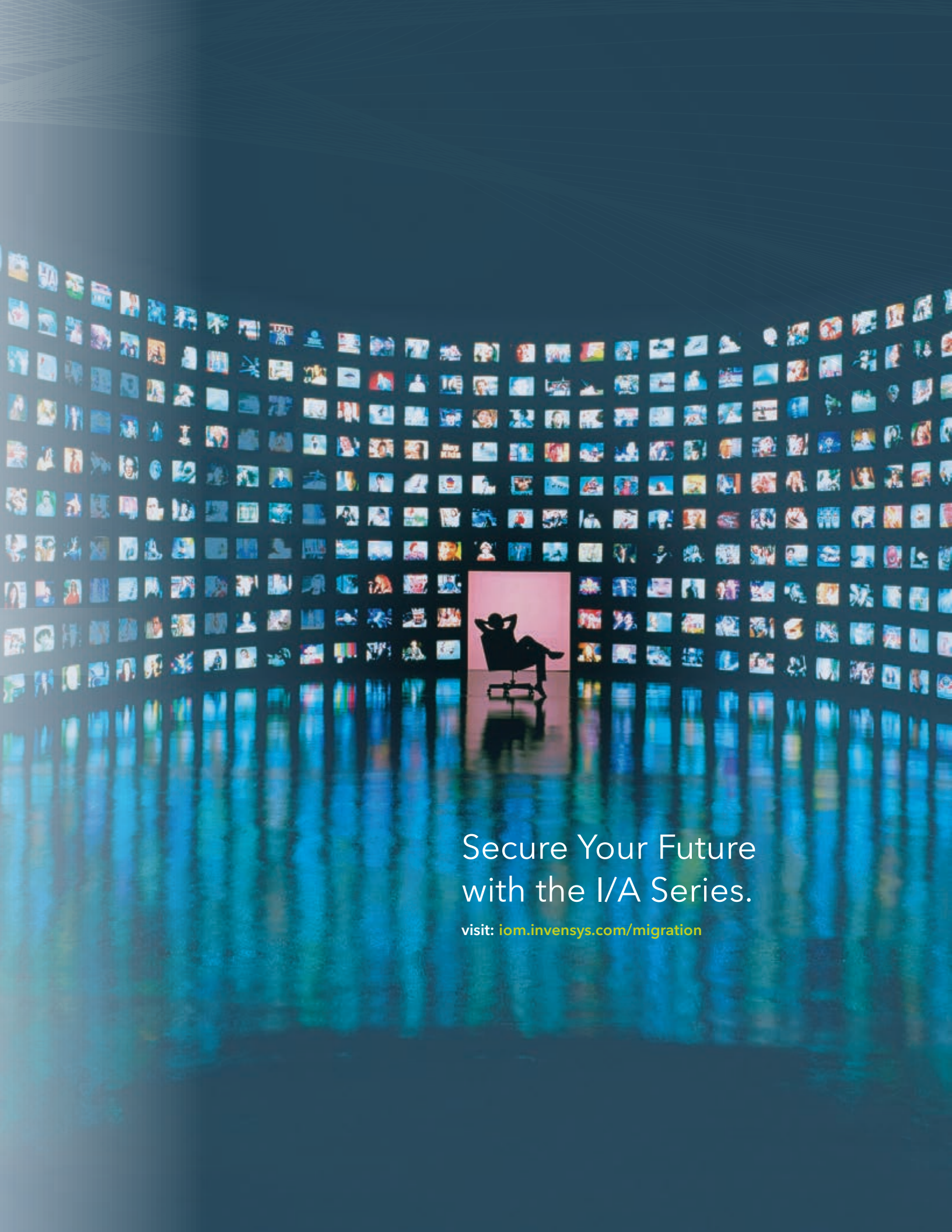
- Minimum cost & downtime—no rewiring!
- Fast, easy installation—operational on day one
- Project expertise—expert database conversion
- A low-risk, reversible approach
- Future life-cycle support—never face complete obsolescence again

Break the boundaries of traditional DCS system limitations and accelerate your personal and company journey towards Control Excellence by partnering with Invensys today.

Plug-in Solutions for:

- Honeywell TDC2000 & TDC3000
- Emerson Provox Series 10 and Series 20
- Bailey Net90 & Infi90
- Westinghouse WDPF
- Moore APACS
- Mod300

Once you have modernized to a new I/A Series system, you have more than just a typical DCS, you're getting the complete foundation for an InFusion Enterprise Control System that has the capabilities to take on virtually any challenge, thereby accelerating your future business success. You have the flexibility to extend application and integration capabilities across your entire production enterprise. With the I/A Series system, you have the flexibility to adapt and grow at your own pace.



Secure Your Future
with the I/A Series.

visit: iom.invensys.com/migration



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