



ascent informatics

An ISO 9001:2008 company

Industrial Automation Division Presentation



www.ascentautomation.com

About AIPL

A little bit about company...

Industrial
Automation
Division

PlantConnect™

Projects





- **Ascent Informatics (India) Pvt. Ltd.** is dedicated to provide innovative IT solutions to its customers
- Incorporated in year 2000
- ISO 9001:2008 company
- Young and enthusiastic team of 40+ Software Professionals
- We strongly believe in 3 Ps
 - **People**
 - Our customers and our employees
 - **Processes**
 - Process driven, but agile approach in every activity
 - **Products**
 - High quality work products



- AIPL takes pride in its business ethics and professionalism
- We feel following qualities set us apart from our competitors and they go much beyond technology -
 - Flexible and sensitive to client's needs
 - Easy to work with
 - Optimum Quality Management System certified by ISO
 - Resources continuity and retention
 - Involvement of top management in projects
 - Cost effective and great value for money



- IT systems as business solutions
- Establish and maintain close and continuous communication with clients
- Set realistic client expectations
- Flexible client driven models

Customers



Customer base in USA, Germany, UK, Switzerland, India etc.



Our customers are saying...



We are delighted to have been able to work with AIPL and strongly believe that their flawless execution was a key factor to our project success.

- Director, Motion Business US & Asia, A Public Company in CA, USA

We would absolutely recommend AIPL to other firms looking for a good partner, and would give them the highest recommendation.

- Steve Drevik, CEO, Agilaire LLC

Everyone at AIPL is proactive, flexible, energetic and capable to accept and meet new challenges.

- Mahesh Washikar, CEO, FuturePath



- Sujata Tilak, CEO and CTO
 - Over 20 years of experience in software industry, in various positions and roles
 - Provides capable leadership to APL with her quality focus, interpersonal skills, flexible client-centric approach and technical competence
 - Has extensive experience of managing client relationships, technology, projects, quality processes
 - An accomplished System Architect
 - Expert in Industrial Automation Domain
- Arvind Tilak, Jt. CEO
 - Responsible for Business Development and Finance
 - APL derives immense benefits from Arvind's business acumen and strategizing abilities
 - Consulting and training in areas of Cross-Border Trade and Investments, IT Strategies, Enterprise IT Management etc.
 - Extensive experience in domain consultancy in areas of Security and Business Continuity



About AIPL

A little bit about company...



Industrial
Automation
Division

PlantConnect™

Projects



- Working in industrial automation domain for past 10 years
- Team with domain knowledge and industrial automation applications knowledge
- We leverage our domain expertise to add value to solutions, close gaps in requirements and exceed customer expectations



- Types of applications developed
 - Web based monitoring and control
 - Plug and play instrumentation platform
 - Semiconductor applications
 - Data loggers / Data Acquisition Servers
 - Web enabling of hardware
 - SCADA
 - Device Drivers
 - Many more...



- Technology landscape is ever changing
- At AIPPL, we have the ability to keep abreast with technology
- The technologies we use can be broadly classified in following categories
 - PC based technologies
 - NI LabVIEW
 - Hand-held and mobile devices
 - Embedded technologies
 - Device drivers for communication with various hardware



- Turnkey Projects in Industrial Automation Domain
- Managed Teams
- Product Lifecycle Management
- PlantConnect – Implementations & Customizations



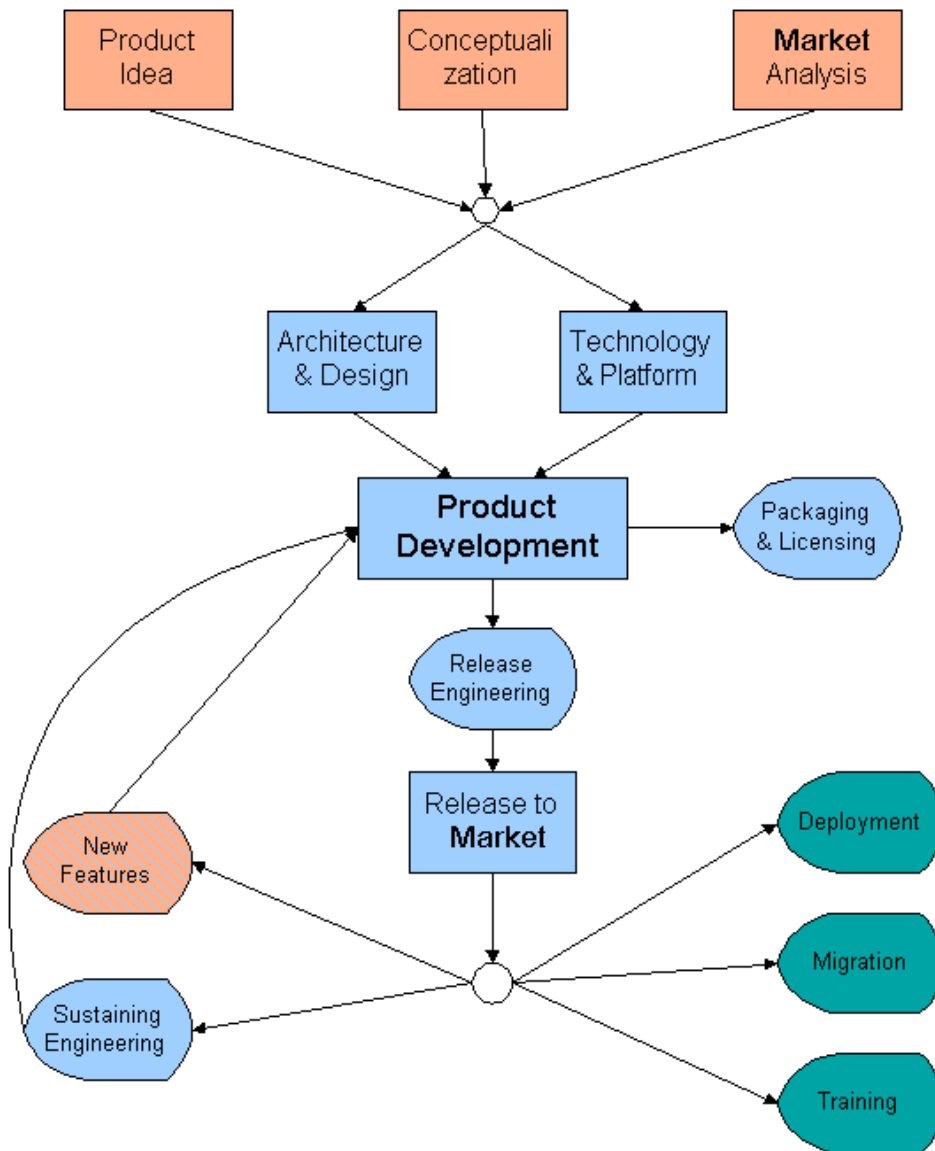
- Full lifecycle / partial projects based on customer specifications
- Fixed cost proposals
- Flexible development models depending on project needs – waterfall, agile
- Quality processes followed in all phases
- Proper documentation



- Setup dedicated teams for clients
- Necessary infrastructure and process maturity for multi-location operations
- Ownership of team management, quality and delivery with AIPL
- Build domain competencies
- Build client specific technology and product competencies
- Proactive and value added deliverables
- Continuity of key resources
- Quick scaling up and down
- Long term partnership beneficial to client and AIPL



Product Lifecycle Management



- AIPL will be your partner throughout the process
 - Product Management
 - Engineering
 - Product Support
- Well tuned PLM practices

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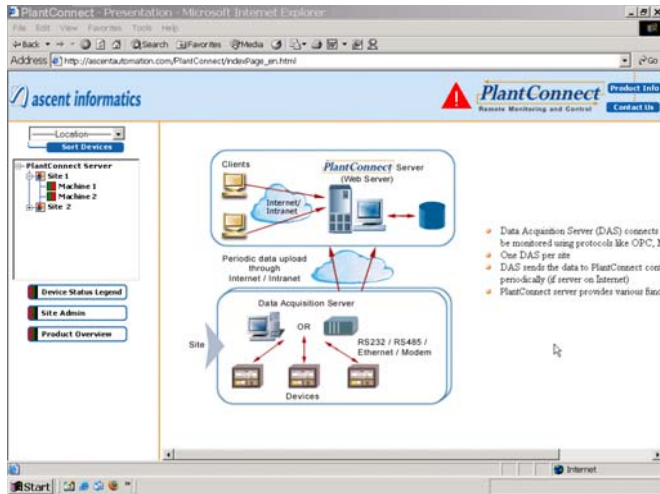
PlantConnect™

Projects

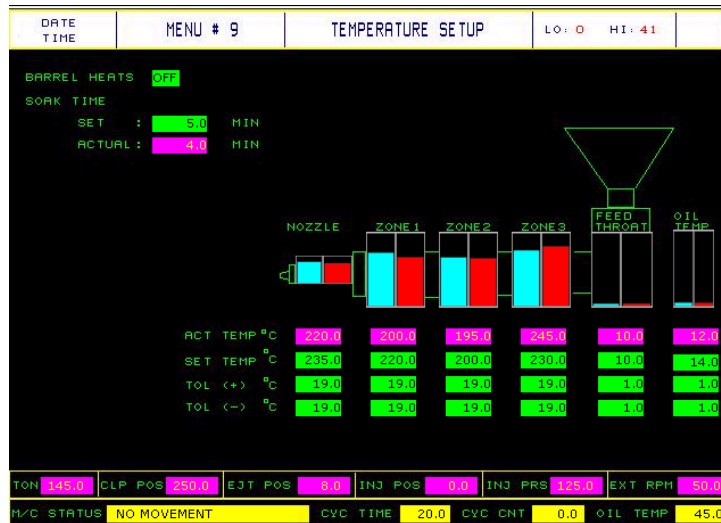




PlantConnectTM
Online Remote Monitoring



Web based platform
for
Monitoring & Control
of
Devices
through
Intranet / Internet





- Web based distributed solution for monitoring and control of factories, plants and equipments
- Scalable, flexible and can be adapted to different deployment scenarios
- Can connect to controllers from different manufacturers
- PlantConnect allows authorized users to monitor and control these devices using a standard web browser from anywhere anytime

Business Drivers



From anywhere

Anytime

Keep in touch
with your
Critical Assets

Reduce Asset
Maintenance
hassles

Get a 'differentiator'
in support and
service

Monitor plant
KPIs

Give 'Premium Service'
to your customers and
get an edge over your
competitors

Get plant
health alerts
via SMS and email

Integrate plant
data with enterprise
systems

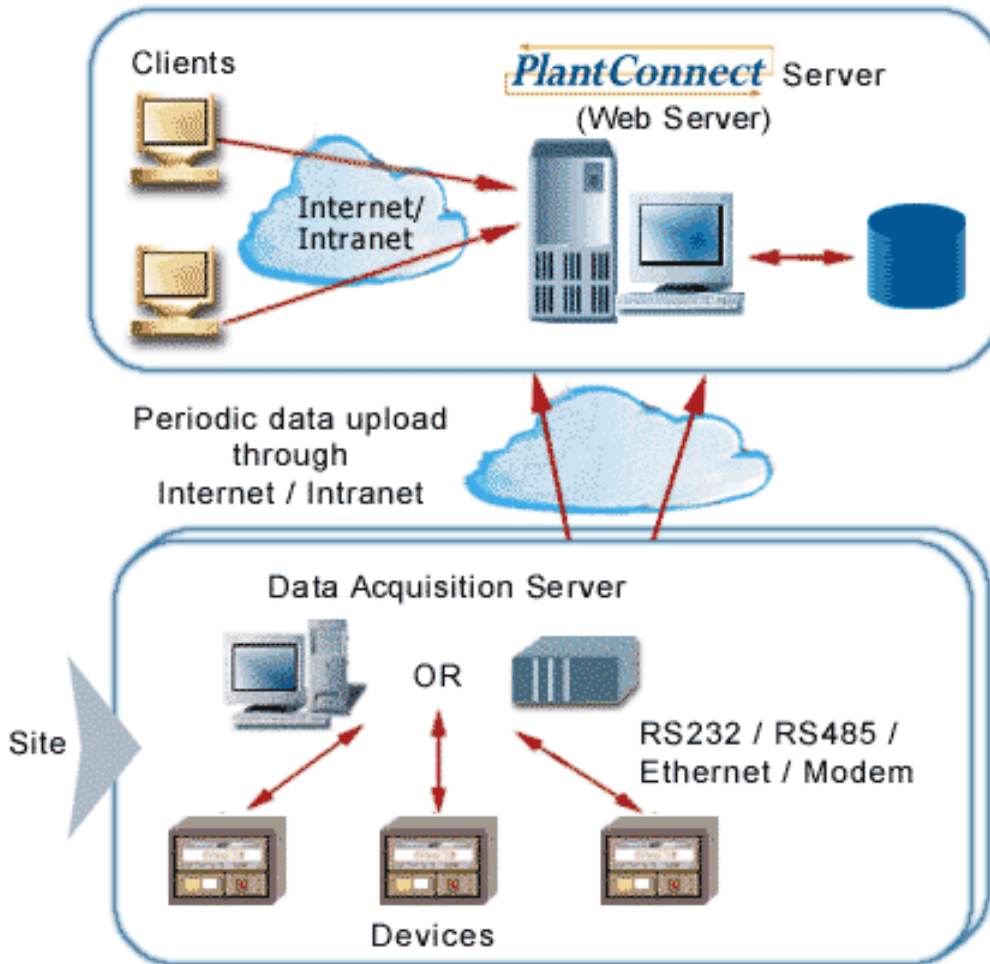
Real time
reports

Improve resource
utilization

Stop pilferage

For details, refer [Applications Section](#)

PlantConnect Architecture



- Data Acquisition Server (DAS) connects and polls devices which are to be monitored. DAS uses protocols like OPC, Modbus etc.
- One DAS per site
- DAS sends the data to PlantConnect continuously (if server on Intranet) or periodically (if server on Internet)
- PlantConnect server provides various functions to browser based clients

Features – Real time Data



- Establish continuous or On-Demand connection to machines
- View machine status at a glance in Device Tree
- View real time data values and trends
- View historical data values and trends
- Export / print historical data
- Alarms archive view / print
- Schedule periodic data export

ascend informatics Welcome.asp

PlantConnect Remote Monitoring and Control

Help Logout Contact Us

Site: [Dropdown] SQL Devices

PlantConnect Server

- South Plant
 - Injection Moulding M/C
 - CNC Turning Center
- North Plant

Device Status Legend

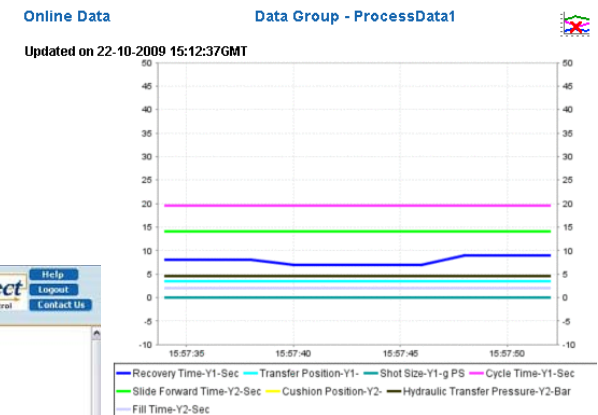
- Site Admin
- Product Info

Online Data Current Alarms Data Archive Alarm Archive Reports Data Configuration

An injection moulding machine with dedicated & integrated HMI panel
Online data of this machine is acquired via OPC Server.

45 MM FRAME

Injection unit specification	Unit	A	B	C	A	B	C
Injection capacity max	GMS	216	272	336	303	374	452
Theoretical displacement	CC	226	286	353	318	393	475
Injection pressure max	BAR	1901	1502	1217	1068	1513	1250





Alarms and Events

- ✓ Limit based alarms
- ✓ Device generated alarms and events

Configure

- Configure limit based alarms for each parameter – high-high, high, low, low-low
- Configure device generated alarms

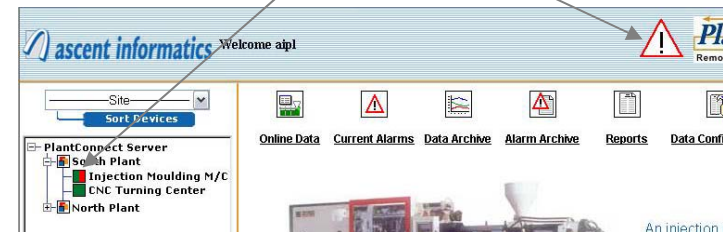
Run time

- When any limits are crossed, alarms are generated by DAS
- Alarms generated by device are read

Alert user

- Audio-visual display on client screen
- Send alarms and event alerts by SMS / email

Alarm indication

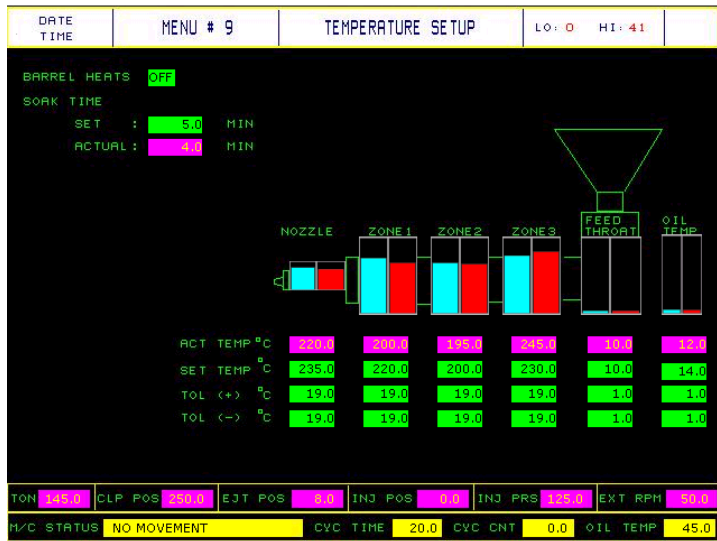


#	Date Time	Alarm Text
1	22-10-2009 16:59:34	Hi-high limit reached for Fill Time. Hi-high limit value = 5.0 current value = 5.12
2	22-10-2009 16:58:44	Hi-high limit reached for Fill Time. Hi-high limit value = 5.0 current value = 4.99
3	22-10-2009 16:56:26	Hi limit reached for Transfer Cavity Pressure. High limit value = 20.0 current value = 20.156567
4	22-10-2009 16:57:08	Acknowledged By SuperUser - HiHigh limit reached for Tonnage. HiHigh limit value = 115.0 current value = 116.128181
5	22-10-2009 16:58:26	Hi limit reached for Tonnage. High limit value = 110.0 current value = 116.128181

Current Alarms Page



Mimic Pages



- Operator panel pages designed for each installation
- Can contain value fields, bar graphs, trends, static text, images

Previous Next

DATE TIME	MENU # 22		PROCESS DATA 1						LO: 0	HI: 41	
CYCLE TIME	FILL TIME	RECOV TIME	SLD FWD TIME	SLD RET TIME	X'FER POS	CUSHION POS	SHOT SIZE	HYDRAUL X'FER PRS	NOZZLE TEMP	ZONE 1 TEMP	
18.000	0.000	0.000	14.000	0.000	3.500	0.000	0.000	4.500	235.000	210.000	
19.878	9.474	9.474	14.000	0.000	3.500	0.000	0.000	4.500	235.000	210.000	
19.714	8.947	8.947	14.000	0.000	3.500	0.000	0.000	4.500	235.000	210.000	
19.592	7.895	7.895	14.000	0.000	3.500	0.000	0.000	4.500	235.000	210.000	
19.389	6.842	6.842	14.000	0.000	3.500	0.000	0.000	4.500	235.000	210.000	
19.184	5.789	5.789	14.000	0.000	3.500	0.000	0.000	4.500	235.000	210.000	
19.061	5.263	5.263	14.000	0.000	3.500	0.000	0.000	4.500	235.000	210.000	
18.898	4.737	4.737	14.000	0.000	3.500	0.000	0.000	4.500	235.000	210.000	
18.694	3.158	3.158	14.000	0.000	3.500	0.000	0.000	4.500	235.000	210.000	
18.531	2.632	2.632	14.000	0.000	3.500	0.000	0.000	4.500	235.000	210.000	
18.367	1.579	1.579	14.000	0.000	3.500	0.000	0.000	4.500	235.000	210.000	
18.245	1.053	1.053	14.000	0.000	3.500	0.000	0.000	4.500	235.000	210.000	
18.000	0.000	0.000	14.000	0.000	3.500	0.000	0.000	4.500	235.000	210.000	
19.878	9.474	9.474	14.000	0.000	3.500	0.000	0.000	4.500	235.000	210.000	
19.755	8.947	8.947	14.000	0.000	3.500	0.000	0.000	4.500	235.000	210.000	
19.510	7.895	7.895	14.000	0.000	3.500	0.000	0.000	4.500	235.000	210.000	
19.388	6.842	6.842	14.000	0.000	3.500	0.000	0.000	4.500	235.000	210.000	

TON: 105.0 CLP POS: 100.0 EJT POS: 9.0 INJ POS: 0.0 INJ PRS: 125.0 EXT RPM: 150.0
M/C STATUS: NO MOVEMENT CVC TIME: 18.000 CVC CNT: 161.000 OIL TEMP: 45.000


Previous Next



Reports / Charts

- Custom reports exactly as per user needs
- Tabular Reports / Summary Reports / Trends / Charts (X-Y chart, pie chart, bar chart etc.)
- Installation wise / site wise / device wise reports
- Automatic report generation / printing / email as per schedule
- Data entry engine – Define and generate data entry screens, for manual data
- Any report / chart can contain manual as well as automatic data

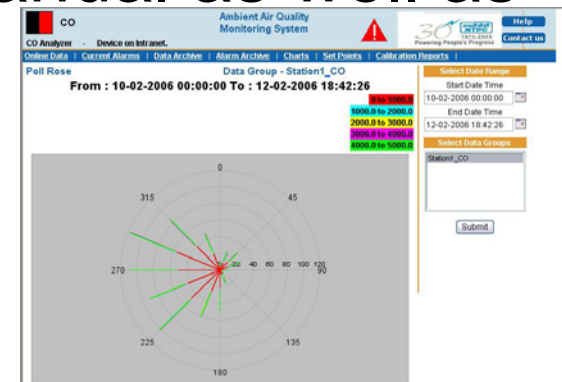
NTPC Limited
Anta Gas Power Project, Anta, Rajasthan
Daily Environmental Report

 30th Anniversary
1975-2005
Dedicated Research Program

Day : 6-1-2006

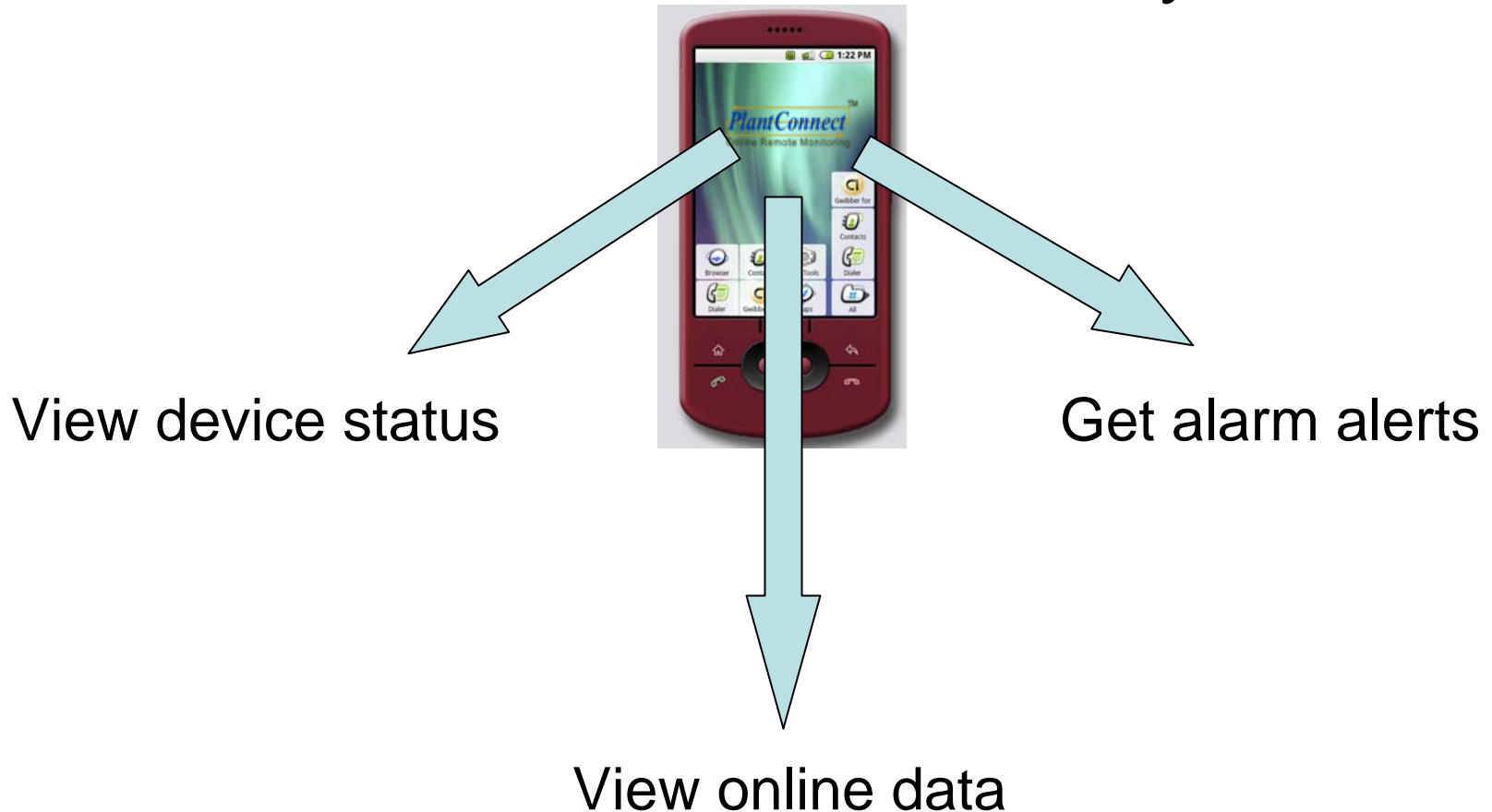
1. Wind Speed 1.926 kmph
2. Prevailing Wind Direction NE
3. Max Air Temperature Max 18.9 Deg. Cel. 06-01-2006 16:11
4. Min Air Temperature Min 0.0 Deg. Cel. 06-01-2006 14:17
5. Relative Humidity 64.087 %
6. Rainfall 9.0 mm
7. Net Radiation -23.959 w / m2

	Parameter	Avg µg/m3	Max µg/m3	Date and Time	Min µg/m3	Date and Time
Station1						
1	NO	35.496	211.11	06-01-2006 06:07	-1.874	06-01-2006 15:15
2	NO2	18.461	61.446	06-01-2006 06:07	-4.284	06-01-2006 13:46
3	NOX	53.956	272.55	06-01-2006 06:07	2.677	06-01-2006 15:15
4	SO2	1.697	4.287	06-01-2006 06:07	-0.572	06-01-2006 03:25





- Access PlantConnect from any mobile





An extensive tool for PlantConnect™ administration

- Configuration of sites, devices, protocols, variables, alarms etc.
- User access definition
 - Machine wise user access control
 - IP based access control
- 100% remote configuration of DAS
- Configuration changes will be effective without DAS restart

The screenshot displays the 'Modify Device : Device Information - Device1' window. The interface is divided into several sections:

- Group Information:** Includes a 'Site' checkbox (checked) and a list of sites with 'West Zone' selected.
- Device Information:** Contains fields for 'Device Name' (Device1), 'Description' (FirstDevice ? Local Softing), 'Polling Frequency (sec)' (3), 'Reconnect Frequency (minutes)' (3), 'Device HTML' (with a 'Select' button), and 'Polling Type' (Continuous Online).
- Protocol Information:** Shows 'Protocol' set to OPC.
- Protocol Parameter:** A table with columns for 'Protocol Parameter' and 'Value'. Parameters listed are DAServer, DAServerType, and ServerMachine.
- Protocol Values:** A list of values including DAServerType.LOCAL and DAServer.Softing.OPCToolboxD.

A navigation pane on the left side of the window lists various administrative tasks such as 'Group Type', 'Group', 'Protocol', 'Device', 'Add', 'Modify', 'Add Variable', 'Modify Variable', 'Variable Alarms', 'Add Device Alarm', 'Modify/Delete Device Alarm', 'Variable Import', 'User Access', 'Delete', 'User', 'Scheduler', and 'Get DAS logs'.



- Scenarios
 - Monitor multiple devices centrally
 - Monitor multiple factories from head office
- Advantages
 - Accurate and real time reporting
 - Define and monitor Key Performance Indices (KPIs)
 - Data analysis
 - Push data into ERP
 - Just in time preventive maintenance



- Scenarios
 - Device manufacturer uses PlantConnect for support and maintenance of devices installed on customer sites
- Advantages
 - Remote troubleshooting
 - Maintenance scheduling
 - Premium service to customer
 - Saving in support costs and time
 - Upload / download of programs



- 24x7 monitoring of polluting gases and weather parameters
- Used in power plants, chemical plants, city wide monitoring
- Mandatory reports and charts
- Automatic generation and upload of daily reports that can be published for public viewing
- Gas leakage alerts onsite and by SMS
- Device drivers ready for
 - Teledyne API
 - Met One
 - GSI
 - Modbus



- Scenario
 - PlantConnect is used for acquiring data from devices on one or more sites and generating MIS reports
- Advantages
 - Real time reporting
 - Multiple users can generate/view reports
 - Can schedule automatic report generation
 - Report printing, saving, distribution by email



PlantConnect Implementations

- Get the best of both worlds
 - standard product features
 - Customizations exactly as per your requirements
- Cost effective
- Quick project completion
- Private branding possible
- We will
 - Study your requirements
 - Customize PlantConnect to suit your requirements

About AIPL

A little bit about company...

Industrial
Automation
Division

PlantConnect™

Projects





Brief information of some projects. More details can be provided on request

- [Plug n Play Instrumentation Platform](#)
- [AAQMS Data Logger](#)
- [OPC Client > SuperAxis OPC Client](#)
- [Remote Monitoring & Control > WebOSP](#)
- [Remote Monitoring > Q-web](#)
- [Remote Monitoring > Web View](#)
- [Trend Viewer > Master Viewer](#)
- [Embedded Systems > T-API Firmware Porting](#)
- [Embedded Systems > KBPrompt Porting](#)
- [Embedded Systems > Prizm V3](#)
- [Device drivers list](#)

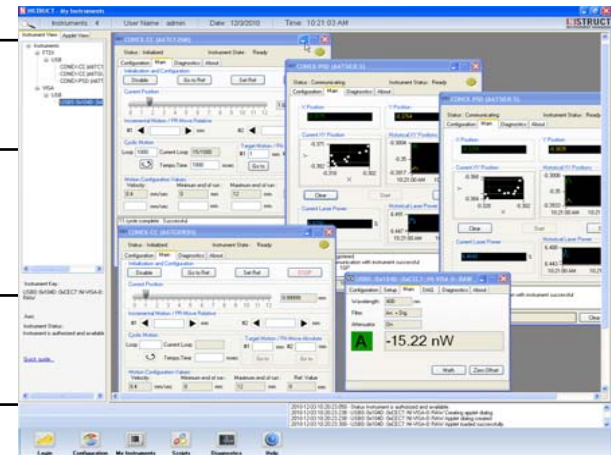
Plug N Play Instrumentation Platform



This multi-tier application provides a plug and play platform for controlling and sharing various instruments of our customer.

The platform allows uniform loading and execution of instrument specific applications that run using the underlying components of the platform. The platform provides all required services like communication infrastructure, protocol drivers, configuration, logging, diagnostics etc. This means a user gets ready to use and robust framework to plug-in his applications / experiments. The framework supports applications in LabVIEW, Python Script and C#

Client	A USA based company
Project Size	Ph I - 64 person months Ph II - ongoing
Team Size	4 to 8
Application Area	Industrial Automation – Platform for instruments control and sharing
Technology Profile and Tools	C#, NI LabVIEW, .NET remoting, drivers for FTDI, NI VISA Tools: Visual Studio.NET, NI Measurement Studio, NI LabView
Environment	Windows



AAQMS Data Logger



This is a PC based Data Logger service that acquires real time air quality data from various equipments, processes it and pushes it to an SQL database. Different device drivers are developed as dlls to connect to devices and acquire data

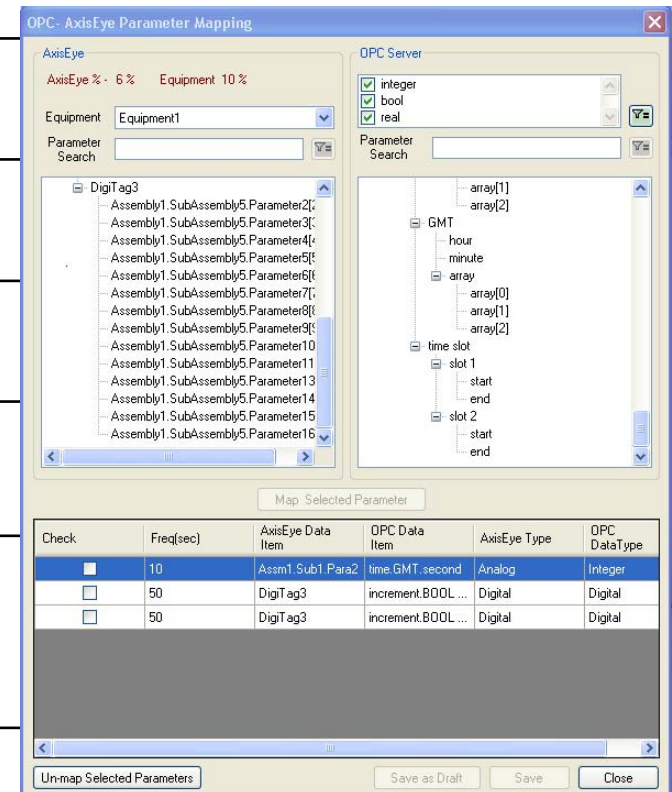
Client	A USA based company
Project Size	40 person months (Ongoing maintenance)
Team Size	5
Application Area	Industrial Automation – Data Acquisition
Technology Profile and Tools	C#, SQL Server Tools: Visual Studio.NET
Environment	Windows



OPC Client > SuperAxis OPC Client

This is a robust and fail safe OPC Client for SuperAxis Remote Performance Monitoring System. The application has a configuration module and a runtime module. It is compatible with OPC DA 2.0 specifications

Client Profile	EcoAxis Pvt. Ltd.
Project Size	20 person months
Team Size	5
Application Area	Industrial Automation
Technology Profile and Tools	C#, C++ DCOM DLL Tools: Visual Studio.NET
Environment	Windows





Remote monitoring & control > WebOSP

This project will allow Rafiki fire panels to be monitored and controlled from remote locations over the internet. The system uses a dedicated hardware called Panel DAS to communicate with fire panels on one side and web server on the other side.

Client Profile	Rafiki Protection Ltd., UK
Project Size	20 person months
Team Size	5
Application Area	Industrial Automation and embedded systems
Technology Profile and Tools	C#, ASP.NET, C++ Tools: Visual Studio.NET, Kiel IDE
Environment	Windows, ARM based 32 bit MCU



Q-web is a 'Central Monitoring and Control System' that monitors all the machines in a plant. It offers various features like On line machine data view, Alarms management, Mimic pages, Set point change etc. Q-web is a web-enabled system and has a browser based client. Thus the user can monitor machines from a remote location through intranet or Internet.

Client Profile	Resotec Realtime Software Technic GmbH
Project Size	10 person years
Team Size	5 to 8
Application Area	Industrial automation
Technology Profile and Tools	OOAD, C++, LIPS protocol driver Java, Servlets, Applets, JNDI, JSP, Java Script, HTML, etc
Environment	Windows, REDIS Controllers



Prizm is the HMI product of Renu Electronics. This project has 2 parts – Conversion of HMI screens of Prizm in HTML pages. Publishing of these pages in browser and connecting to Prizm and acquiring real time data and images from Prizm for display in browser.

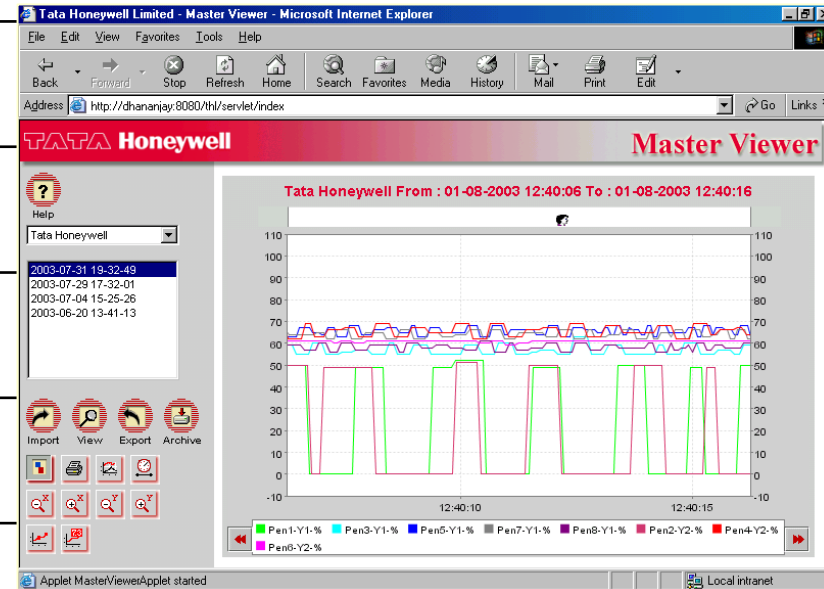
Client Profile	Renu Electronics Pvt. Ltd.
Project Size	8 person months
Team Size	2
Application Area	Web based Industrial Automation
Technology Profile and Tools	VC++, HTML, Java Applets Visual Studio, Eclipse
Environment	Windows OS, Prizm hardware



Trend Viewer > MasterViewer

This is an offline trend viewer for paperless recorder product of the client. The system provides facility to import data from the recorder to a central web server and allow users to view trends and alarms on intranet or Internet.

Client Profile	Tata Honeywell Ltd.
Project Size	12 person months
Team Size	4
Application Area	Industrial automation
Technology Profile and Tools	OOAD, Java Servlets, Applets, JSP, Java Script, HTML, etc
Environment	Windows





Teledyne API are a leading manufacturer of Gas Analyzers for ambient air quality measurement. This project is for porting their instrument firmware from 16 bit RTOS 'AMX86' to another suitable OS. The project consists of 2 phases – POC for identification of OS and Firmware Porting. The 2 OS short listed for POC are AMX 386 and Embedded Linux.

Client Profile	Teledyne Advanced Pollution Instrumentation
Project Size	6 person months
Team Size	2
Application Area	Embedded Systems
Technology Profile and Tools	C, C++ AMX 86, AMX 386, XLinux Paradigm IDE, Visual Studio with TAPS simulator from KADAK, Borland Compiler, GCC, Ncurses etc.
Environment	PC 104 compatible boards from Acrosser and ICOP

Embedded System > KBPrompt Porting



Teledyne API are a leading manufacturer of Gas Analyzers for ambient air quality measurement. This project is for porting KBPrompt firmware from 16 bit RTOS 'AMX86' to XLinux. The porting involved some redesigning and new development due to differences in structures of AMX and XLinux. Some kernel level drivers were also developed

Client Profile	Teledyne Advanced Pollution Instrumentation
Project Size	16 person months spread over 2 phases
Team Size	4
Application Area	Embedded Systems
Technology Profile and Tools	C, C++ AMX 86, XLinux KDevelop, GCC, Ncurses etc.
Environment	PC 104 compatible boards from ICOP



- Consulting assignment for AIPL
- Prizm series HMI - text Display, graphics display, touch screen products
- ARM processor
- Creating common firmware for all models in Prizm series
- Responsibilities
 - Design
 - Code organization
 - Special issues like performance, memory etc.

Device drivers list

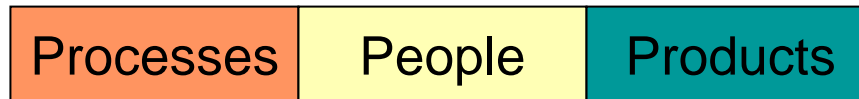
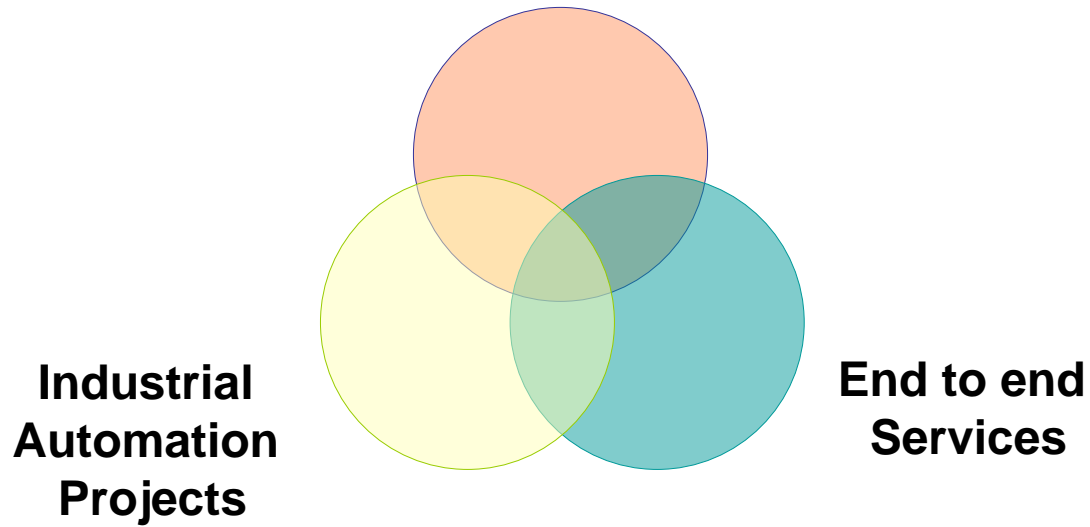


AIPL has developed many device drivers that communicate with different devices using protocols supported by the devices. These drivers were developed for PlantConnect as well as for some other systems. List of some drivers -

Ethernet Drivers	Serial Drivers
OPC Modbus TCP DDE Euromap 63	Modbus RTU FX2N Selogica MC3F MC4 Fanuc CNC Controllers TAPI MetOne GSI



PlantConnect Implementations





Thank You!

We look forward to doing business with you

Write to Dr. Arvind Tilak arvind.tilak@aiplindia.com

Or call us at +91 20 6500 4608

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