Dearborn Electronics India Pvt. Ltd.
Bangalore, India
Website: www.deindia.com
Dearborn Electronics India Pvt. Ltd

DE - Industrial Automation Solutions

FDT / DTM solutions

- FDT enabling applications
- Custom DTM development
- Middleware development
- FDT/DTM products – DTMWizard, DTM Framework
- Training and Support on technology & products
Bundled multi version OPC solutions DA, HDA and AE

Expertise in development of OPC sniffer, Bridges, Browsers etc.

Expertise in OPC Client and OPC Servers development

.NET (remote and local WCF) based OPC solutions

Cross standard based solutions: HMI-OPC & OPC-FDT
Dearborn Electronics India Pvt. Ltd

DE - Industrial Automation Solutions

- Softing FBK device integration
- Hardware development
- Software development
- Training on FF and Softing AG FBK
- Products – FBK wizard*

* DE future plan
DE - Industrial Automation Services

IT Solutions

- Web based development
- Graphical Information System (GIS)
- Mapping Software
- Data Management
- Web Services
### DE - Industrial Automation Solutions

<table>
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<th>Softing OE Products</th>
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<tr>
<td>FBK</td>
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<tr>
<td>Linking device</td>
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<tr>
<td>FF Configurator</td>
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<td>Gateways</td>
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<td>FF OPC server</td>
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<td>Wireless Gateways</td>
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### DE Product - DTMWizard Features

<table>
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<tr>
<th>DTMWizard Features</th>
<th>DTMWizard Features</th>
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<tr>
<td>Complete solution for DTM development</td>
<td>Support for Graph control</td>
</tr>
<tr>
<td>Directly compiled, launched into the frame applications</td>
<td>Supports HART and Profibus PA</td>
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<tr>
<td>Supports FDT-Specification 1.2 with addendum</td>
<td>Self registration</td>
</tr>
<tr>
<td>Template-based implementation</td>
<td>Tested with ALL Windows desktop OS (NT series)</td>
</tr>
<tr>
<td>Supports Visual Studio IDE (optionally)</td>
<td>Conforms to the FDT DTM Style Guide</td>
</tr>
<tr>
<td>AppWizard and self run executable</td>
<td>Compatible with any standard FDT container</td>
</tr>
<tr>
<td>Different UI support: Dialogs, Property sheets, Property pages</td>
<td>Handling inputs from DD, EDDL</td>
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<tr>
<td>Different UI support: Wizard sheets, wizard pages</td>
<td>Certifiable</td>
</tr>
<tr>
<td>Easy customization as per requirements</td>
<td>FF DTM</td>
</tr>
<tr>
<td>Resource editor to add controls to UIs</td>
<td>Other protocols</td>
</tr>
<tr>
<td>Device database database mapping</td>
<td>Communication DTM</td>
</tr>
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Dearborn Electronics India Pvt. Ltd
DE - Industrial Automation Solutions - Summary
DE Hardware Engineering Solutions

Board Design

- Conceptualization
- Requirement specification definition
- Prototyping
- Architectural design
- System-level design
- Hardware development
- Board prototype development
- Software implementation
- Module integration and testing
- Product verification and quality conformation
- Documentation
- Product release & maintenance

DE offers its expertise and services in the following areas:

- High speed digital design
- Microcontroller based design
- FPGA design

FPGA Development

Key Expertise:

- Top level integration of FPGA modules test bench modules
- Expertise in C, VHDL, Verilog, FLI (Foreign Language Interface) for VHDL programming languages
- Expertise in Modelsim 6.0 and Xilinx ISE tool usage
- Expertise in verification of FPGA design (RTL), developing behavioral models, simulation level testing and generating test cases
- Product design using FPGA and CPLD devices
- Have experience in designing products with Xilinx Spartan -3, Spartan-2 series FPGA, XCR3512XL Cool Runner and XC 95XX CPLD devices
- Architectural design for FPGA devices
- Circuit design and PCB board design for FPGA / CPLD devices
DE Memberships and Partnerships

DE Memberships
- FDT Group Member
- ISA

DE Partnerships
- Dearborn Group Technology
- softING your connection to excellence
- GEMAC
- CONTEMPORARY CONTROLS
- geensys
DE Key Customers

Automotive Electronics & Industrial Automation

OEM
- Force Motors Limited
- Volvo
- Ashok Leyland
- Sonalika International
- Mahindra

Tier 1
- Lear Corporation
- Visteon
- Magna
- Delphi
- Honeywell
- LS Industrial Systems
- ABB
- Sick

Tier 2 / 3
- Dearborn Group Technology
- Movimento
- Softing
- Adasa Sistemas
- Tata Autocomp Systems Ltd
- Robotiker
- Rishtec
- Contemporary Controls
- Innova
## OPC Solution

| ✓ OPC DA, HDA, AE servers & Client Development | ✓ FDT- Device Type Manager (DTM) Development |
| ✓ OPC UA and .NET (remote and local WCF) based OPC solutions | ✓ DTMWizard – Easy way of creating DTM’s |
| ✓ Configuration & Diagnostics Tools | ✓ Device & Communication DTM development |
| | ✓ EDDL development |

### Case study 1: OPC DA / HDA Server Development

**Problem Description:**
The project is to develop OPC DA and HDA Servers capable of obtaining historical and real-time data from one or more Moscad RTU devices connected over a RTU network.

**How DE Helped?**
DE developed the following components:
- HDA Server: Provides access to data already stored through a retrieval system
- DA Server: Provides access to real-time data from RTU’s
- Monitoring and Setup Tool: Provides support to configure the MOSCAD RTU’s database for retrieving the data
- Diagnostics Tool: Provides diagnostics and troubleshooting support for Server software

**Benefits to Customer:**
- Customer uses this application for monitoring water level and chemical contents in water
- The solution provided by DE is faster and efficient than the existing one.
- Historical data capabilities of solutions help customer diagnose the problems of historical nature.
**OPC Solution**

- OPC DA, HDA, AE servers & Client Development
- OPC UA and .NET (remote and local WCF) based OPC solutions
- Configuration & Diagnostics Tools
- FDT- Device Type Manager (DTM) Development
- DTMWizard – Easy way of creating DTMs
- Device & Communication DTM development
- EDDL development

## Case study 2: OPC Client

**Problem Description:**
The project is to provide browsing capability and connectivity services to OPC servers. Client should always be alive.

**How DE Helped?**

- Development and Implementation using Microsoft COM/DCOM with distributed/modular architecture
- Customized API’s that enable HMI talk to the OPC Servers
- Windows Service based solution to keep the server always running
- Support for OPC DA 1.0, 2.0
- Same code base used for Windows CE and Windows NT series OSs

**Benefits to Customer:**

- Strong product differentiation with respect to UI and configuration support for customizing product
- Using browsing capability one can browse entire set of OPC servers present in the network and explore the supported features like data types, version etc
**OPC Solution**

- OPC DA, HDA, AE servers & Client Development
- OPC UA and .NET (remote and local WCF) based OPC solutions
- Configuration & Diagnostics Tools
- FDT- Device Type Manager (DTM) Development
- DTMWizard – Easy way of creating DTM
- Device & Communication DTM development
- EDDL development

### Case study 3: OPC DA Server

**Problem Description:**
The project is to develop OPC DA server and to provide configuration capability and connectivity services to OPC clients. It should support all flavor of HART devices. And also the Configuration tool to configure the server.

**How DE Helped?**
DE understood the customer needs and helped them by:
- Development and Implementation using Microsoft COM/DCOM with distributed/modular architecture
- Customized database oriented configuration tools
- Used OPC ToolWorX for initial development
- Support for OPC DA 1.0, 2.0, 3.0

**Benefits to Customer:**
- Strong product differentiation with respect to timing and configuration support for customizing product
- Supports all the available HART devices and their versions
DE Product - DTM Solution

- OPC DA, HDA, AE servers & Client Development
- OPC UA and .NET (remote and local WCF) based OPC solutions
- Configuration & Diagnostics Tools
- FDT- Device Type Manager (DTM) Development
- DTMWizard – Easy way of creating DTMs
- Device & Communication DTM development
- EDDL development

Case study 4: DTMWizard

Product Description:
DTMWizard is a complete, fast and cost effective solution for DTM development as per FDT-Specification 1.2 with addendum. It involves only few steps in generating a full fledged functional DTM that works in popular frame applications.

Product Features:
- Supports Dialogues, Property Sheets and Wizards based screens.
- Resource editor option for on the fly UI generation.
- DTM generated conforms to the FDT's DTM Style Guide Specification.
- Implementation of the DTM Interfaces according to the FDT-Specification.
- Template-based reusable modules for mandatory DTM interfaces.
- DTM generated is tested with standard FDT container applications.
- Support for XML based configuration.

The following features implementation is in progress:
- Inputs from DD and EDDL to generate DTMs
- Supporting self run executable
- Supporting HART, Profibus and Foundation Fieldbus protocols for generating device DTMs
**Case study 5: Transmitter Function Block Development**

**Problem Description:**
The project is to develop fieldbus function blocks for transmitters.

**How DE Helped?**
- Development of Transducer block, Resource Block, Analog Input Block, Input Selector Block as per the Fieldbus standards for multivariable and pressure transmitters
- Motorola 68331 series microcontroller for communication board
- Developing a generic architecture for the function block for easy customization
- Involved in support during the ITK certification of devices

**Benefits to Customer:**
- New product role out to the market ahead of schedule
- Same code base used for Profibus transmitter
FieldBus Protocol Adapters

Linking devices / Gateways

Case study 6: Hardware Development – Gigabit Industrial Ethernet Switch

Product Description:
Design of a Gigabit Industrial Ethernet Switch

Main Features:
- DIN rail or panel mounted and can be powered from 12 to 28.8 VAC/DC
- Indication LED for link status/port activity and data rate of each port
- EMI/EMC, CE standard compliance
- Hardware PHY, MAC design Using IC
- Board lay out in PROTEL

Benefits to Customer:
- Low cost design with high quality
- Completed the Design and Implementation in 10 weeks time
- The product development has been done entirely at the India center and the customer has appreciated the quality of hardware
IT Solutions

- Web Application development
- Web Services development
- IMS Server Development
- GIS Server development

Case study 5: SIA

Problem Description:
The project is to develop an application on the web for the public to know the information about Aqua.

How DE Helped?
- Development of GIS server.
- Fixing the UI Modules bugs
- Enhancing the application for the new features

Benefits to Customer:
- Technology Expertise
- Cost Effective
DE Future Plans - Business

- To have local site presence in UK, Germany and US by Q1 2009

- Strategic technology partnership for FDT / DTM

- Expand existing product development center / offshore development centers for customers

- Setting up dedicated product development center / offshore development centers for Prospects / customers

Aim to provide value based high end expert solution to the Industry automation clients in the emerging technologies
Thank you

Seize the Opportunity with DE

Thank You!

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