What is FDT® Technology?

The FDT Group AISBL is an international non-profit corporation consisting of leading worldwide member companies active in industrial automation and manufacturing. The major purpose of the FDT Group is to provide an open standard for enterprise-wide network and asset integration, innovating the way automation architectures connect and communicate sensor to cloud for the process, hybrid and factory automation markets. FDT Technology benefits both manufacturers and end users, with advancements such as the Industrial Internet of Things (IIoT) and Industry 4.0 delivered out-of-the-box – enabling modernized asset integration and access to performance data for visualizing crucial operational problems. Around the world, end users, manufacturers, universities, and research organizations are working together to develop the technology; provide development tools, support, and training; coordinate field trials and demonstrations; and enable product interoperability.

FDT Technology is comprised of two primary software components—the FDT Device Type Manager (FDT/DTM™) the driver for an intelligent device, and the FDT FRAME Application (FDT/FRAME™), which can be a stand-alone configuration application or embedded in engineering applications such as a DCS, PLC or asset management solution. DTMs developed by instrumentation suppliers provide a graphical interface to support configuration, diagnostics and troubleshooting of critical measurement devices and other assets. The FRAME Application provided by the system supplier, hosts DTMs used for management of all the devices on a wide variety of process and factory networks within a facility. Together, an FDT/FRAME and a collection of DTMs and/or other device drivers create an FDT-enabled application, which can be scaled from a small collection of devices to tens of thousands of devices controlled by a single FRAME throughout the automation communication pyramid.
ABOUT TECHNOLOGY DEVELOPMENT MEMBERSHIP

Cloud-to-Plant-Floor Connectivity with FDT Server

Simplify entry into IIoT with a standardized, scalable & secure solution with mobility

Lee Lane, FDT Group Chairman of the Board of Directors

This is always an enthusiastic time of the year coming into Hannover Fair. While there is all the excitement and usual activities associated with any major tradeshow, the FDT Group will also hold its annual General Assembly meeting at Hannover Fair as it has done for the last 8 years. The FDT Group is entirely a member-led organization. Our members make up the technical working groups, the marketing departments, the Executive Committee and the Board of Directors. When we come together as a committee of the whole at our General Assembly, it is our time to renew friendships, to say thanks for the support and progress of the last year, and to confirm the future direction and leadership of the FDT Group.

One of the topics that is pivotal to the future technology direction of the FDT Group standards is the release of FDT version 2.1. This latest version of the standard makes several editorial clarifications, strengthens a few features, and sets the basis for the FDT IIoT Server™ (FITS™) standard that will be released later this year. My thanks to our Architectural and Specification Working Group for their dedication to ensure the timely release of these updates. True to the FDT legacy of compatibility, an FDT 2.1 FRAME™ can support a mixed topology of 2.1, 2.0 and 1.2.x DTMs. Interestingly, a DTM created under the 2.1 standard can also work with any existing FDT 2.0 FRAME. That is some great engineering supporting the huge installed base of FDT.

With the FDT 2.1 release in the rear-view mirror, we now are focused on our year-end delivery of the new FITS specification that allows DTMs to be securely accessed by any standard web browser on any standard platform – mobile, tablet, notebook, or desktop. Combined with our OPC UA server features, the FDT Server is positioned as a valuable hub of information accessible across the enterprise in full support of Industry 4.0 and our vision to empower the intelligent enterprise.

A great deal of the FITS specification has been authored and is now under review by the Architecture and Specification Working Group. The final standard will be delivered as three documents: the FDT 2.5 specification which builds on FDT 2.1 to include the HTML5 and JavaScript graphical user interface features; the FITS Web Services Technical specification which describes the Web Services interfaces and requirements for a FDT Server; and the OPC UA annex which describes the OPC UA server mapping for a FDT Server.

To fully support and accelerate the adoption of the new FITS architecture into the marketplace, a comprehensive development solution comprised of Common Components will be delivered together with the release of the FITS specification. Common Components create a library of FDT routines and will simplify compliant development of FITS-based solutions such as Servers, DTMs and Apps.

One question I am frequently asked about is backwards compatibility of FITS. A desktop FRAME application that has been upgraded
Reliability + Maintainability = Availability

The Yokogawa FieldMate Versatile Device Management Wizard is a FDT compliant PC-based integrated software tool that handles parameter setting for intelligent field devices, regardless of their make or field communication protocol. FieldMate speeds up device configuration and problem solving, and automatically stores a work log for a traceable field maintenance database that consolidates the maintenance work flow and facilitates the sharing of maintenance know-how. In addition, FieldMate synchronises seamlessly with Yokogawa’s PRM Plant Asset Management solution.

While I am pleased with the progress to date, we still have a lot to accomplish in the balance of the year. We have over a hundred people working on the various aspects of FITS to get it ready for a release later this year, I would like to take this opportunity on behalf of the Board of Directors to thank all these volunteers from our member companies for their expertise, passion, and dedication to the FITS project.

Lastly, as an international non-profit standards-based organization, I would like to extend a welcome and recognize Wetcon GmbH from Senden, Germany as FDT’s newest Corporate member. As always, we welcome other companies interested in this exciting journey, to join as a member of the FDT Group supporting the evolution of FDT technology.
The quest to increase productivity never ends for manufacturers. In the current economy, industry leaders are often determined by their ability to operate more efficiently, with higher quality, and at a lower cost than their competitors.

The first industrial revolution occurred in the late 1700s (factories), the second during the early 20th century (automobiles) and the third after World War II (computers). As a result of these revolutions, products are manufactured faster and with higher consistency, and have greater value to customers.

The industrial revolution now underway, commonly referred to as Industry 4.0, is powered by advancements that include smart manufacturing, advanced analytics and the Industrial Internet of Things (IIoT).

With networked production, interconnections, data and information exchange across the industrial enterprise will increase, thus making integration and communication more important. This is the driving force for FDT® technology, which provides a single, open, interoperable and standardized interface for industrial networks—extended to meet today’s growing worker mobility requirements.

**FDT Roots in Industrial History**

Industrial organizations of all sizes are adopting modern automation solutions at an accelerating rate, but there is so much more opportunity yet to come as more and more organizations invest. This is a huge opportunity to address the barriers of integration and interoperability to bring companies into the future.

The history of FDT technology is one of advancement and innovation, as it has kept pace with the changing requirements of industrial automation, and the diverse needs of suppliers, end users and other stakeholders.

The FDT Group’s roots date back to the late 1990s, when the organization was established as an informal association by a number of leading automation firms to oversee FDT technology. The goal was to...
develop a single, open field device tool that would standardize the host interface with the device for seamless integration and complete interoperability regardless of the protocol(s) in use, providing open access to device intelligence. Support by global manufacturers both large and small came with the realization that FDT would be a key integration standard for the automation industry moving forward.

In May 2001, the first FDT standard was released to the market-place as Version 1.2. The specification used COM and ActiveX as its base technologies. Its key components consisted of a Device Type Manager™ (DTM™) and a FRAME™ application. Within the FDT ecosystem, device manufacturers provide DTM software for their products, and the FRAME, embedded in control systems or standalone device management tools, communicates and reads those DTMs regardless of the protocol for each device.

With a growing number of FDT members, it was decided to for-
Continued

Timeless Technology Standardizes IIoT Connectivity

ormaly organize the group as a legal independent entity. The FDT Group was officially founded in September 2005 as an International Not-For-Profit Association (AISBL). Shortly thereafter, the FDT standard became internationally recognized as IEC 62453, as well as the North American standard ISA 103 and China GB/T 29618.

FDT technology was developed for the purpose of advancing integration in the digital world of automation. Over time, it has become the de-facto standard in this market segment with tens of millions of DTMs installed in field instrumentation and tens of thousands of FRAMES deployed for integration, lifecycle management and information management.

Evolution of the Standard

Recent decades in the automation industry have seen fierce competition amongst major vendors, with the various standards organizations they support. But no matter if the technology was fieldbus, wireless, Ethernet or other implementations, end users have always sought consistency, standardization, interoperability and integration while ensuring minimal risk.

FDT is the only open, scalable, secure and interoperable architecture for the modern industrial environment, whether it is process, hybrid or discrete automation. The technology provides a vendor-neutral software interface for integrating assets and delivering access to device intelligence. This includes a common environment for utilizing intelligent devices’ most sophisticated features.

Industrial firms around the world have found FDT simplifies device/system assimilation at all phases of the plant lifecycle. The technology enables interoperability of device information in facilities with multiple or hybrid communication networks to improve reliability and lower costs – all made possible by harnessing the valuable...
data held in these intelligent assets.

In 2012, the FDT Group announced the advancement of its original standard to meet the needs of the new era of automation, supporting the lifecycle of tomorrow’s adaptive manufacturing assets. Developed to leverage WPF, as well as Microsoft .NET technology, the FDT 2.0 specification supports an enhanced user interface (UI) with enhanced graphical representations of device functionality. It maintains proven FDT heritage including numerous performance improvements. The technology provides backward compatibility with the existing FDT installed base, eliminating “rip and replace” scenarios when utilizing different generations of field equipment, and allowing new and existing software to coexist.

FDT 2.0 supports a client-server architecture, which allows separation of the DTM UI and Business Logic (BL). It also supports an OPC Unified Architecture (UA) companion specification in relation to the client-server approach. Any OPC UA Client can be authenticated and approved to access the FDT architecture.

FDT 2.0 also defines robust security capabilities with embedded certificates in DTMs and a host of user role enhancements. DTMs based on the current specification are digitally signed, providing tamper-proof software delivery and non-repudiation. Granular DTM security with enhanced user rights is added to the security settings.

Finally, “Common Components” providing a comprehensive development environment added to the deliverables with the release of FDT 2.0. These powerful, easy-to-use tools for developers saves time and money for FRAME and DTM development, assuring implementation of specification conformance for plug-and-play interoperability. They work along-side the dtmINSPECTOR for testing and certification of DTMs and improve ease of maintenance. Common Components allow developers to focus on the custom design features of their FDT-
enabled solutions that distinguish their products from others, ensuring product quality with faster execution time to market. The tools will remain an important element to future revisions of the specification as the technology evolves.

To expand upon the rich features offered in FDT 2.0, FDT Group recently released the FDT 2.1 specification that focused on key technological enhancements along the migration path for the future. The updated specification provides expanded distributed architecture support, as well as improvements for ease of use with intelligent devices by handling larger volumes of structured data, additional security capabilities to protect against malware, increased communication performance and enhancements for mixed topology environments.

FDT 2.1 sets the stage for moving into FDT IIoT initiatives of enabled systems supporting a connected enterprise through creation of a single system infrastructure that standardizes the connection of disparate automation assets. Due to the Common Component approach introduced in 2.0, adopting 2.1 functionality require substantially less effort for vendors.

**Enabling the Industrial Internet of Things**

With the introduction of the IIoT, industrial automation is once again undergoing a tremendous change. This is made possible, in part, by recent innovations in technology that allow interconnection on a wider scale. However, there remains a need for standardized and open solutions to ensure today’s powerful automation assets can communicate and work together as required by the industry.

FDT Group’s goal is to ensure a “timeless” technology moving into the next generation of solutions to empower the intelligent enterprise. Just as previ-
development of its new FDT IIoT Server™ (FITS™) architecture. Using Microsoft .NET technology, FITS is specifically designed to support implementations for client/server, multi-user distributed architectures enabling mobility, cloud, and fog accessibility enterprise-wide. The solution features robust layered security, leveraging vetted industry standards, and utilizes transport layer security (TLS) to establish a hardened shell and encrypt all communications throughout the architecture. Optionally, it can authorize devices that connect to the FDT Server. User-based security is employed to determine the user’s role and rights within the application.

The emerging FITS specification is planned to deploy in late 2018 with a complete development solution to advance compliant products to market, including servers and DTMs.

FDT Group and its members specifically are designing FITS to allow for complete interoperability across both current and emerging standards, supporting the convergence of information technology (IT) and operational technology (OT). Users can switch standard protocols for any level of network backbone. The enhanced architecture is scalable and modular to suit the needs of a single manufacturing facility, segments of a facility, or an entire industrial enterprise.

The FDT IIoT solution will be built surrounding a core FDT Server, which serves as a broker enabling a wide range of client/server interactions, whereby communication between these key components is standardized for its’ Control, OPC UA and Web Services interfaces.
The Control element of the architecture establishes the “nested” communication to field devices included in mixed protocol architecture. This interface enables access to a wide range of field devices by “tunneling” through the network hierarchies.

Additionally, the OPC UA interface allows an OPC UA Client to retrieve information from any device connected anywhere in the plant. Thanks to the FDT OPC UA model, information for the OPC UA Client is independent of both the device manufacturer and the fieldbus to which the device is connected. An application for an OPC UA Client could be an asset management system that identifies the equipment topology, the attached devices, and related data (e.g., device type, manufacturer, serial number) through the FDT Server.

To advance the standard into mobile applications, the FITS architecture will introduce a Web Services interface, which boasts operating system (OS) agnostic support for standard browsers, and mobility standardization for the development of fit-for-purpose apps for easy maintenance efforts. The FDT Server provides an Application Programming Interface (API) to the Web Services portal authorizing clients such as a desktop or apps for mobile access to new DTM employing HTML5 and Java Script. This standardized mobile access approach will enable any mobile device authenticated to access the server to have full access to the topology with tunneling capability to manage FITS-based DTM devices on any network.

For end users in the process, hybrid and factory automation markets, the FITS architecture will empower them with open solutions that remain modular, flexible, and scalable to support today’s installed base while advancing to adapt as the industry demands – thus streamlining the evolving ecosystem exchange of the future.

**Mobilizing Today’s Workforce**

Just as mobile devices are transforming the way consumers communicate, connect, shop, bank and work, mobility solutions are
dramatically changing the landscape of manufacturing plants. With visibility, information and control literally in workers’ hands, plant processes and productivity are transformed.

In Spring 2017, the FDT Group formed a project group for investigating the use of mobile devices. The objective was to drive real-time, data-driven analytics using web browsers and apps through an FDT standard interface via mobile devices. This technology development will help optimize industrial organizations and their maintenance departments by enabling cloud-based enterprise data access, robust device diagnostics, mobility applications, and the use of augmented reality in asset management and predictive maintenance programs.

Here, too, the manufacturer- and fieldbus-independent model of FDT, along with cross-field communication, offers important advantages. This approach allows connection from the mobile device to the field device, even if the field device has no wireless connection, but is connected to wired networks. Users will benefit from much simpler device management through standardized apps instead of a variety of vendor-specific apps allowing seamless communication in a consistent manner with the various field devices.

Beyond cloud services with mobile applications, the use of augmented reality via a holographic human-machine Interface (HMI) and Microsoft’s HoloLens computing device will further address critical lifecycle management issues. Technicians will be able to view real-time data and analytics using hands-free operation, visualizing status and live data for each sensor location.

The modular and scalable FITS solution is squarely focused on applications where worker mobility is needed. This could include the food & beverage and pharmaceutical industries, for example, where companies are under pressure to upgrade their automation equipment to better monitor product quality and standards compliance.

Furthermore, FITS is well suited for Greenfield environments where monitoring of key performance indicators (KPIs) and optimal control of process operations is critical, as well as Brownfield applications where a part of the plant or facility requiring mobility solutions can be upgraded with a FITS architecture.

**Conclusion**

From the beginning, FDT has set the stage for open, standardized integration for bi-lateral communication and access to asset analytics across the enterprise. Today, the standard has become the heartbeat of any architecture, widely adopted and in use around the globe as trends move plants and factories towards connected manufacturing throughout the automation verticals.

From a single-user, stand-alone application to a client/server, multi-user distributed architecture supporting the 4th Industrial Revolution era, FDT remains the only integration standard that works together with others, transforming the way industrial enterprises connect and communicate – sensor to cloud, by empowering the intelligent enterprise.
Release of FDT 2.1 Sets Transformation Path for Connected Industrial Enterprise
Enhanced specification focused on security, performance, ease of use, and investment protection

Hannover, Germany, 24 April 2018 – FDT Group, an independent, international, not-for-profit standards association supporting FDT® technology, today announced the release of the FDT 2.1 specification, which enhances both industrial automation developer and end user experiences focused on security, performance, ease of use, and investment protection. The key technological embellishments in 2.1 set the stage for FDT’s transformation towards a complete, standardized Industrial Internet of Things (IIoT) architecture enabling sensor-to-cloud, enterprise-wide connectivity for next-generation automation solutions.

Industry-driven feedback has been the basis for the growth of FDT technology since the release of the original Version 1.2 specification in May 2001. The updated FDT 2.1 standard builds on the success of FDT 2.0, released in April 2012, with a robust combination of features, including improved security, faster performance, ease of use, and investment protection, according to Glenn Schulz, managing director, FDT Group.

“As we enter the era of IIoT, security is at the forefront of each specification revision as FDT is the heartbeat of automation architectures and serves a key integration technology to connect networks and assets,” said Schulz. “FDT 2.1 strengthens our security offerings, allowing validation of signatures for installed Device Type Managers™, known as DTMs™, and protecting against the possibility of malware in control systems. As systems become more connected, tightening authentication improves plant-wide security and provides worker safety.”

Attractive performance and ease of use capabilities are included in the FDT 2.1 revision, such as:

- Faster retrieval of static and process values from input/output (I/O) devices.
- Extended support for array data types, improving the organization of larger volumes of structured data and providing users with improved performance for reading more operational data from advanced devices.
- An environment to control how a DTM connects to a device, resulting in a significant enhancement for communications – especially OPC Unified Architecture (UA) Server monitoring performance.
- Protection for the FDT installed base, allowing a topology scan to automatically assign a 2.0 and 2.1 DTM to a device found with a
Continued
Release of FDT 2.1 Sets Transformation Path for Connected Industrial Enterprise

For end users, this means device assignments can be made in a mixed topology environment with 1.2, 2.0 and 2.1 DTMs. Built upon the significant enhancements brought to the market via FDT 2.0, the FDT 2.1 specification maintains FDT Group’s true backward compatibility commitment – allowing FDT 2.1 FRAME™ applications to have a seamless integration capability with all generation DTMs. Forward compatibility also allows FDT 2.0 FRAMES to integrate with 2.1 DTMs and legacy versions, thus protecting investments for the large, global FDT installed base.

Along with the release of FDT 2.1, the companion HART annex specification supporting FDT 2.1 for DTMs will simultaneously launch to accelerate product to market, supporting the vast installed base of devices that employ this communication protocol. Additional protocol annexes are planned for release throughout the remainder of the year.

From the beginning, FDT technology has set the stage for open, standardized integration for bi-lateral communication and access to asset analytics across the enterprise. FDT 2.1 provides the means for moving into IIoT initiatives of FDT-enabled systems empowering the intelligent enterprise through creation of a single system infrastructure that standardizes the connection of disparate automation assets.
Wetcon GmbH is Newest FDT Group Member
Focused on IIoT and Cloud Solutions

Company provides software and technical expertise for next-generation of industrial automation

Hannover, Germany 24, April 2018 – FDT Group, an independent, international, not-for-profit industry standards association consisting of leading companies and organizations active in industrial automation and manufacturing, today announced that Wetcon GmbH is its newest member. Based in Senden, Germany, Wetcon is a provider of comprehensive device management solutions for industrial applications.

FDT Group’s major purpose is to provide an open standard for enterprise-wide network and asset integration for seamless exchange of performance-driven data for the intelligent enterprise. Membership in the organization offers unique advantages for the entire industrial automation industry, including end users, suppliers/developers, service providers, universities, and individuals. Members are involved with providing innovative FDT®-enabled products, solutions and services, and have the opportunity to join working groups, technical project groups and marketing committees to help direct the technology.

Founded in 2005, Wetcon is a Gold Microsoft Partner offering a broad array of technical expertise in asset management focused on factory and process automation, as well as the medical industry. The company’s solutions are intended to support Industrie 4.0, Industrial Internet of Things (IIoT) and the cloud era based on the latest Microsoft technologies.

Wetcon has developed an IIoT solution, “fielddevice.cloud,” providing cloud-based asset monitoring for sensors and field devices. This initial IIoT offering provides a PACTware plug-in enabling integration of FDT Device Type Managers™ (DTMs™) hosted in PACTware into fielddevice.cloud. Wetcon’s development complements FDT Group’s efforts to transform the way industrial enterprises connect and communicate sensor to cloud by empowering the industrial enterprise.

Technology providers like Wetcon can leverage FDT Group’s complete, standardized approach to enterprise integration, including the launch of the FDT IIoT Server™ (FITS™) architecture serving as a broker for a wide range of client/server interactions, whereby communication between these key components is standardized for control, OPC Unified Architecture (UA) and Web Services interfaces.
Christoph Welte, managing director, Wetcon, said, “FDT Group membership provides insight into current technological developments and marketing support for our own products. We want to make our many years of experience in the field of device configuration technologies visible through FDT Group, and we also see the opportunity to participate in new trends in this environment at an early stage.”

FDT Group Managing Director Glenn Schulz welcomed Wetcon as FDT’s newest Corporate Member and praised its commitment to FDT technology by assisting vendors around the globe with their FDT/DTM device management needs. He stated, “Wetcon has a clear vision for IIoT solutions for the industrial automation sector. Release of the fielddevice.cloud platform as a PACTware plug-in will enhance device monitoring services for FDT’s largest installed base in the single user, stand-alone market.”

Since the beginning of FDT, Wetcon’s focus has been on developing FDT-enabled solutions by supporting engineering system vendors with a define, design and integrate method for integration of DTM and Field Device Integration (FDI) Device Packages for their automation products. Additionally, Wetcon provides assistance for implementing mobility apps for FDT/DTM-based solutions, including a cross-platform approach covering both iOS and Android to allow for lifecycle management of those devices.
EtherNet/IP-Based Process Devices: Connection Made Easy with FDT

Modern, easy-to-use solution increases visibility to industrial Ethernet field devices while reducing maintenance effort

Contributed by Rockwell Automation and Endress+Hauser

Process maintenance teams have long been challenged with gaining access and connectivity to service their field-level devices. Traditionally, plant personnel needed to walk out to the processing area and use a handheld communicator or a Bluetooth enabled web application to individually connect to each device directly – a process that can take hours.

As more operations are connected using next-generation process field networks, like EtherNet/IP®, the need for an easier, centralized connection method is imperative for more efficient device management.

To this end, Rockwell Automation and Endress+Hauser offer solutions that – when combined – help leverage the time-saving benefits of FDT® Technology to connect, configure and maintain EtherNet/IP devices. This gives maintenance personnel the ability to remotely access intelligent EtherNet/IP devices from a centralized, secure and safe location, reducing field-device maintenance from hours to mere minutes.

Getting Connected

To enhance plant operational efficiency, modern facilities want a fully enabled IIoT architecture with connected applications, automation systems and process devices throughout the enterprise. To access plant floor data, Rockwell Automation supports EtherNet/IP process devices in an FDT architecture with the FactoryTalk® Linx CommDTM.

The FactoryTalk Linx CommDTM allows asset management software that is based on FDT technology, such as Endress+Hauser FieldCare™ and FactoryTalk AssetCentre Process Device Configuration, to communicate with EtherNet/IP devices. This allows process mainte-
nance teams to easily and effectively traverse process skids to access field devices across the plant.

Even plant operations staff benefit from the ability to use a single-communication DTM to connect to all devices across all systems and skids, regardless of a plant’s size, whereas in the past, teams needed multiple communication DTMs to traverse various hardware and process systems. Additionally, operations teams can access field devices from a central location. With this integrated solution, engineers, operators, technicians and managers can identify any EtherNet/IP device by its serial number and get the health status of each device — all from a single application. This not only saves significant time but also helps eliminate the risks associated with field maintenance.

Case-in-Point: Dairy Plant Saves Valuable Maintenance Time

One dairy plant, operating several process skids, recently implemented a solution that included FieldCare and the FactoryTalk Linx CommDTM to access hundreds of Endress+Hauser EtherNet/IP devices across its facility. Maintenance and operations personnel use the CommDTM to connect and monitor field devices regardless of their physical or network location. The producer enjoys having one central tool for the team to access data from their office or wherever personnel happen to be in or outside of the facility during their working time or, if needed, to assist with plant operations outside their normal hours. Consolidated, remote access to field devices allows maintenance teams to focus on monitoring, maintaining and addressing issues as well as improving their work processes.

For today’s process automation users, integrating several modern design concepts into a single solution is easy. A modular, information-rich facility is easy to design, implement and maintain when EtherNet/IP and FDT Technology are used as part of the architectural foundation.

To download the FactoryTalk Linx CommDTM, please visit our Product Compatibility and Download Center (PCDC).
German company wetcon, with many years of expertise in device management solutions based on FDT and FDI, offers with fielddevice.cloud a cloud-based asset management for field devices as Software as a Service (SaaS). Thanks to a plug-in for PACTware, provided free of charge, this is available to all DTMs, hosted in PACTware, without them having to be modified.

The fielddevice.cloud web application provides statistical overview of configured device types, their geographic location information, editing users, NE107 status of devices, executed parameter up- and downloads, occurred error messages and parameter related audit trail information. This information can also be displayed for a dedicated device instance.

Within PACTware no additional user handling is necessary to provide this information to fielddevice.cloud. Instead, the plug-in takes over the logging of all activities and delivers the data to the field device service via a secure connection for the respective customer account. This works with all DTMs without any modification purely on the basis of the information provided via the FDT interfaces of a DTM.

The reports are highly interactive and based on Power BI from Microsoft. Power BI is a suite of business analytics tools, that delivers insights throughout an organization and is able to connect to a hundred of different data sources. Power BI based reports are highly interactive supporting any HTML5 based web browser. In addition, the reports can be modified directly by the fielddevice.cloud user within the web browser using an Excel oriented user interface. This can be used to provide additional information within a report, e.g. based on specific field device types.

The service is hosted in Microsoft Azure. This guarantees highest service availability and worldwide fast access times.

Within fielddevice.cloud, data of each customer is stored in separate databases, in fact fielddevice.cloud uses a dedicated SQL server in the cloud for each customer. A customer may also be able to ac-

Fielddevice.cloud

Cloud based asset monitoring for Field Devices, out-of-the-box supporting PACTware
cess its monitored data using an ODATA service interface (on request).

Field device monitoring services may also be available for any other type of device or FDT/FRAME-enabled application. Source code for nearly any client can be generated automatically based on the OPENAPI interface of fielddevice.cloud REST services.

Usage of fielddevice.cloud is free of charge for 30 days. After that, payment is based on the number of connected field devices per day.

wetcon also offers a version via Microsoft Azure Marketplace, so that the fielddevice.cloud services and reports can be hosted within a customer owned Azure subscription. This would provide also the possibility to integrate other customer specific databases (e.g. production data and buyer information) into the Power BI reports.

For the connection of further field devices to fielddevice.cloud, wetcon offers appropriate support or realizes such an integration efficiently.

Reliable monitoring – exact and fast control

CONTACTRON motor manager: motor and system protection

With the motor manager, you can detect all the critical load states throughout the system and benefit from the advantages of modern real power monitoring. If required, the motor manager switches off the drive and thereby protects motor and system.

For additional information call +49 5235 3-00 or visit phoenixcontact.com
FDI-DTM: FDI Device Packages in FDT Host

FDI-DTM technology has been implemented in Utthunga’s uFDI-DTMTM/uDD-DTMTM tool.

Over the years, device integration has been a subject of great importance in the world of industrial automation to ensure system-wide interoperability, security and optimal plant performance. EDDL (Electronic Device Description Language), FDT/DTM™ (Field Device Tool/Device Type Manager) and FDI (Field Device Integration) are the three existing device integration standards in the process industry.

FDI® has a huge installed base of DTMs that support thousands of diverse devices from most of the world’s leading measurement and control suppliers. Additionally, FDT/FRAME™ applications have been integrated in most DCS systems.

FDI is an emerging device integration technology in the process automation industry. The core of FDI standard is the FDI Device Package. It is a standardized container having all the elements required for describing the field device in the plant. FDI Device Packages contain EDDL to manage the device operations and optional UIP (User Interface Plug-in) to describe the complex device functionalities like echo curve, valve signature etc.

FDI-DTM technology allows FDI Device Packages to be supported in existing FDT/FRAME-enabled host systems. This enables the existing huge installed base of FDT-enabled engineering applications to experience the benefits of FDI Device Packages. EDDL and UIP components within the FDI Device Package are interpreted as the Device DTM by the FDI-DTM technology. For FDT/FRAME™ applications, the FDI-DTM will act like a Device DTM whereas for the FDI Device Package, it will behave as if it is the FDI Host. FDI-DTM technology will ensure long-term investment protection for end users and device suppliers.
uFDI-DTM and uDD-DTM: Simple and Effective

Utthunga’s uFDI-DTM/uDD-DTM has been developed on FDI-DTM technology.
This enables DD and FDI Device Packages to work in FDT 1.2/2.0 FRAME-based hosts. It brings flexibility, allowing device vendors to support all three device integration standards while allowing end users the opportunity to use new FDI Device Packages and reuse existing EDDs in their FDT-enabled application.
Join the FDT Group

FDT Technology continues to be at the forefront of industrial automation advancement, with a truly open and standardized architecture to address the critical needs of the ‘Connected World’ of the Industrial Internet of Things (IIoT) and Industry 4.0. FDT Group has a strategic vision focused on the “Connected World” enabling a FDT/IIoT architecture supporting mobility, on-the-wire security, and comprehensive interoperability through an ecosystem of automation vendors providing tomorrow’s new adaptive manufacturing assets.

Join other leading companies in the FDT Group today. There are unique advantages for the entire industrial automation industry – end users, suppliers/developers, service providers, universities, and individuals.

For membership information, please visit www.fdtgroup.org