

NELES

Product school

Intelligent valve controllers – asset management overview
Welcome and thank you for attending this session

In session features

Practicalities – submit questions

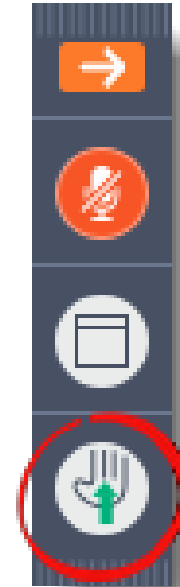
▼ Questions

[Enter a question for staff]

Send

Webinar Housekeeping
Webinar ID: 608-865-371

 GoToWebinar



- Name
 - Mark Buzzell
- Brief Bio
 - I've been with Neles since 2007.
Most of this time as technical support and then product management for the Neles intelligent valve controllers.
Recent addition of pneumatic rotary actuators to my product management responsibility.
- Position
 - Product Manager – Valve Controls and Actuation



Training Objectives

Valve Controllers

This training will cover:

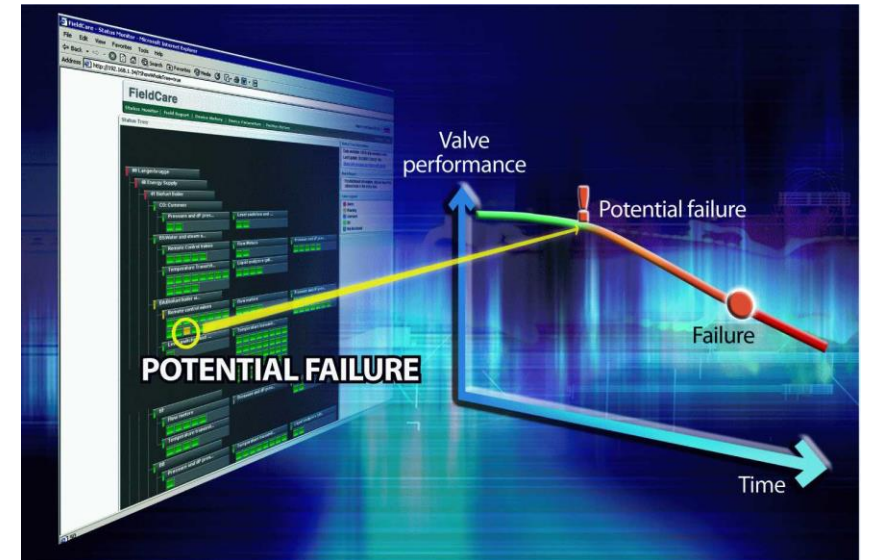
- Features and benefits of the following software products:
 - fdtCONTAINER / Neles DTMs
 - 3rd party asset management programs



Asset Management Systems

Basics

- Asset Management software allows you to take full advantage of the features in intelligent field devices
- Some software is used for point-to-point connection to a single field device while other software is meant to communicate to an entire plant worth of devices.
- Implementation of these systems can support predictive maintenance activities.

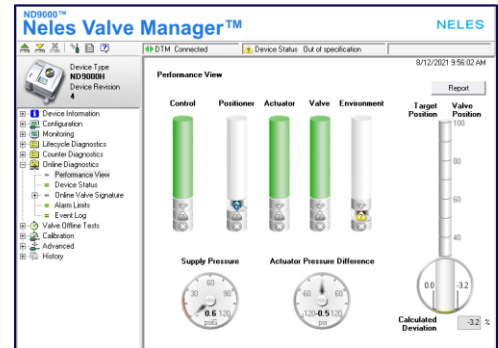
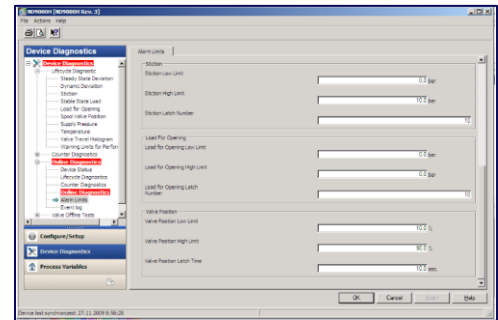


Asset Management Systems

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Types

- Handhelds
 - Use DD files. Provides basic information and tests, typically without any graphics.
- EDD Based Systems
 - Configuration and basic diagnostics
- DTM Based Systems
 - Advanced configuration and diagnostics (Neles preferred)
 - Most systems include a “FDT Frame” which runs DTMs
- FDI – newest technology (most systems do not support yet)



Frame Application and DTM's work seamlessly

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Frame Application

Device DTM

The screenshot displays the NELES ND9000H Valve Manager DTM interface. The top menu bar includes PROJECT, DEVICE, TOPOLOGY, and VIEW. The left sidebar shows a tree view with 'Template - HART *' and 'COM4 HART Communication'. The main area is titled 'ND9000™ Neles Valve Manager™' and shows 'DTM Connected' and 'Device Status: Out of specification'. The 'Performance View' section includes five vertical bars for Control, Positioner, Actuator, Valve, and Environment, each with a status icon. Below these are two gauges: 'Supply Pressure' (0.5 psiG) and 'Actuator Pressure Difference' (-120-0.1 psi). A large vertical scale on the right shows 'Target Position' (0.0) and 'Valve Position' (-3.2), with a 'Calculated Deviation' of -3.2%.

DTM Connected

Device Status: Out of specification

8/12/2021 9:41:53 AM

Report

Control Positioner Actuator Valve Environment

Target Position 0.0

Valve Position -3.2

Calculated Deviation -3.2 %

Supply Pressure 0.5 psiG

Actuator Pressure Difference -120-0.1 psi

The device DTM looks the same in any frame application

- Neles has strong commitment in developing connections to Asset Management systems that follow open international standards
 - Systems accepting EDDL (Electronic Device Description Language), i.e.:
 - Emerson AMS v8 and up
 - Honeywell FDM
 - Siemens PDM
 - Systems that run FDT (Field Device Tool) / DTM (Device Type Manager), i.e.:
 - Emerson AMS v12 and up
 - Honeywell FDM
 - E&H FieldCare / DeviceCare
 - Rockwell Automation AssetCentre
 - Valmet DNA FDM
 - Yokogawa PRM / FieldMate
 - Other systems: fdtCONTAINER, Pactware...
- FREE support file download for any Neles field device:
 - www.neles.com/valves-services/valve-software/



Asset Management Software and Support Files

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Free Downloads

- Download @ <https://www.neles.com/valves-services/valve-software>
- fdtCONTAINER – v4.6.21055
 - CodeWrights HART commDTM v1.0.60
 - CodeWrights FF H1 (Foundation Fieldbus) commDTM
- Neles Device DTM packages
 - Note: Metso DeviceCare only works with Metso branded DTMs. If installing these new Neles branded DTMs you will need to install fdtCONTAINER.
 - Neles DTM for ND/VG/SG – v1.24.3
 - Neles DTM for NDX – v9333
- DD/EDD files

fdtCONTAINER by M&M (replacement for DeviceCare) [Download](#)

fdtCONTAINER quick guide

HART commDTM

Foundation Fieldbus commDTM

Neles Device Type Manager for NDX™ [Download](#)

Neles Device Type Manager for ND/VG/SG [Download](#)

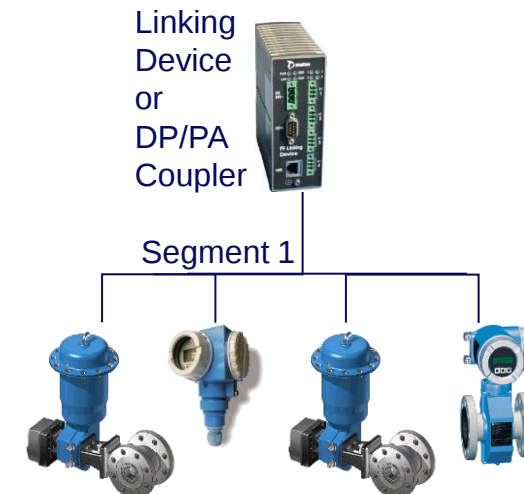
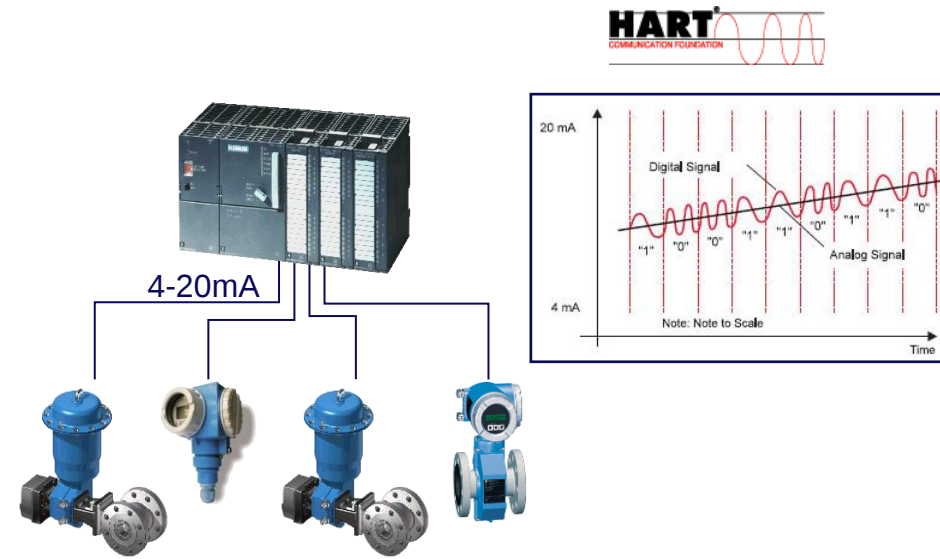
Communication Protocols

Basic Concepts

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- HART (>90% of positioners)
 - 4-20 mA analog signal controls the valve position with HART digital communication signals transmitted simultaneously over the same wires.
 - Individual wires for each field device
 - Various protocol revisions 5, 6, 7. All backwards compatible
- Foundation Fieldbus and Profibus PA
 - Bus protocols that transmit the valve position and diagnostics/ configuration digitally.
 - Multiple devices connected to the same segment for reduced wiring.

Protocol	ND9	NDX	VG9	SG9
HART protocol revision	6/7	6/7	6/7	6
Foundation Fieldbus H1	✓		✓	
Profibus PA	✓			



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fdtCONTAINER

Overview / Instructions

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Neles FDT Frame History

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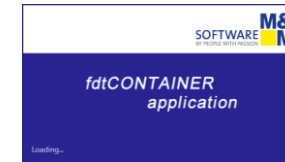
- Neles provides software to configure and diagnose our intelligent field devices



2003 FieldCare



2017 DeviceCare

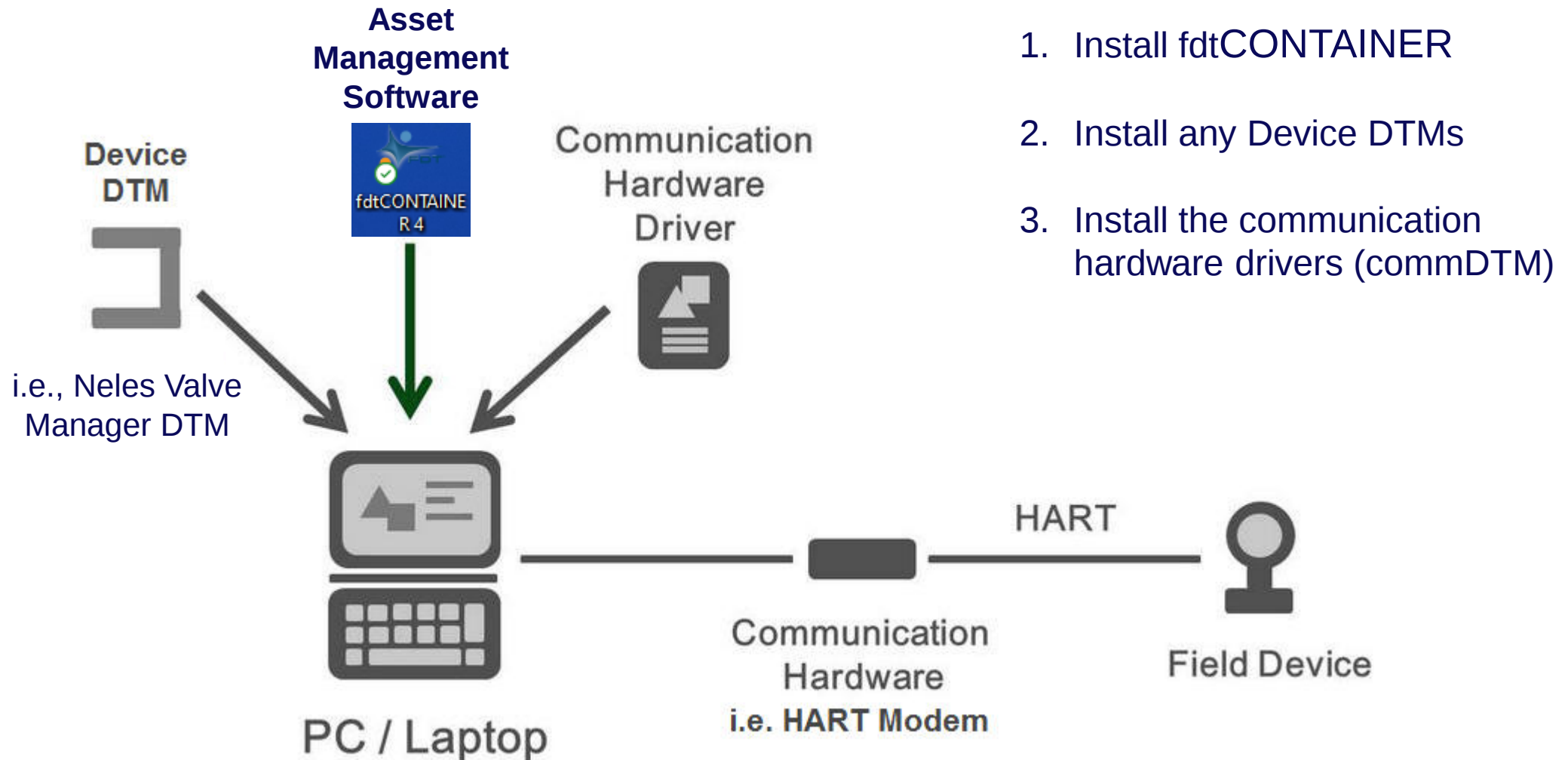


2020
fdtCONTAINER 4

Initial Setup

Installation Basics

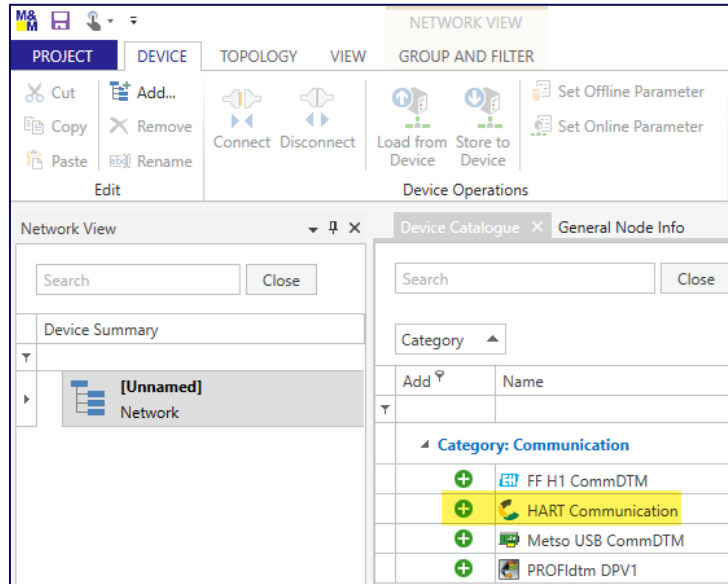
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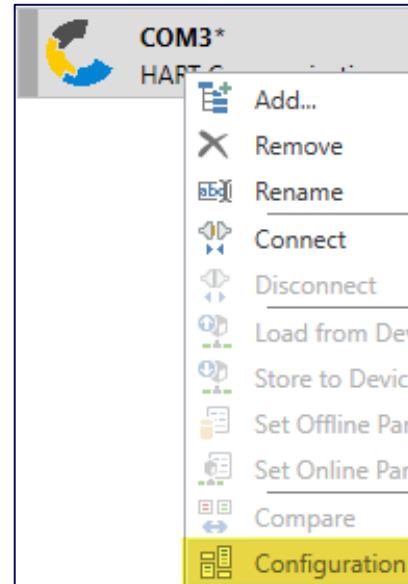
fdtCONTAINER

Template Project Creation

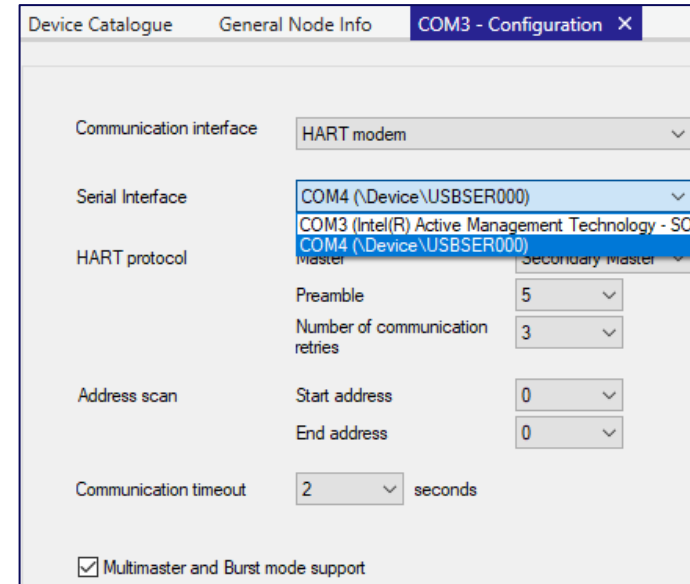
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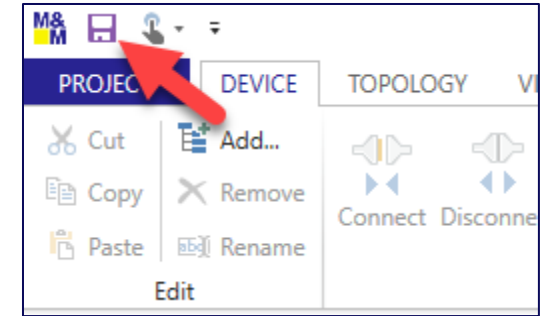
Click the + next to the commDTM



Right click and select *configuration*



Select the correct *Serial Interface* (COM number) and click OK



Click the Save icon
And select a location to save the project

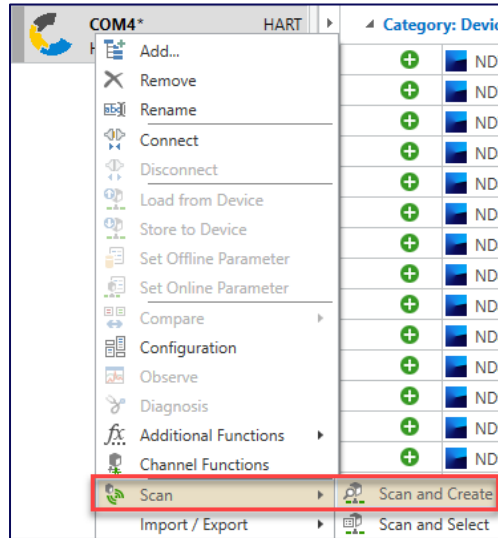
fdtCONTAINER

Connection Steps

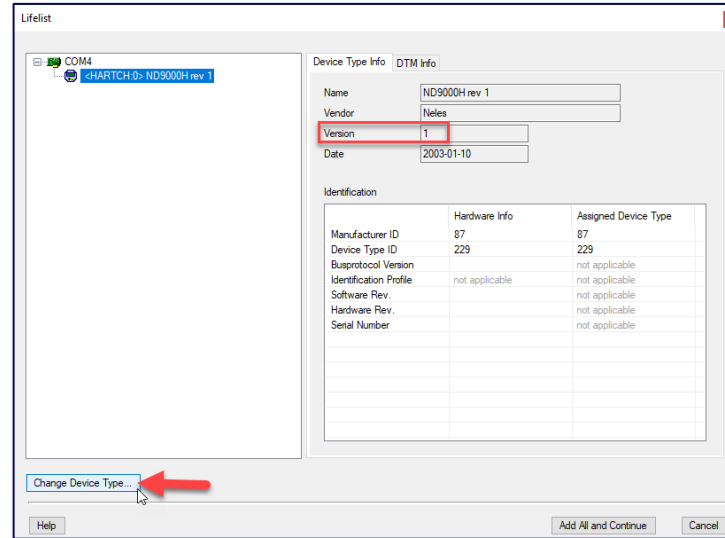
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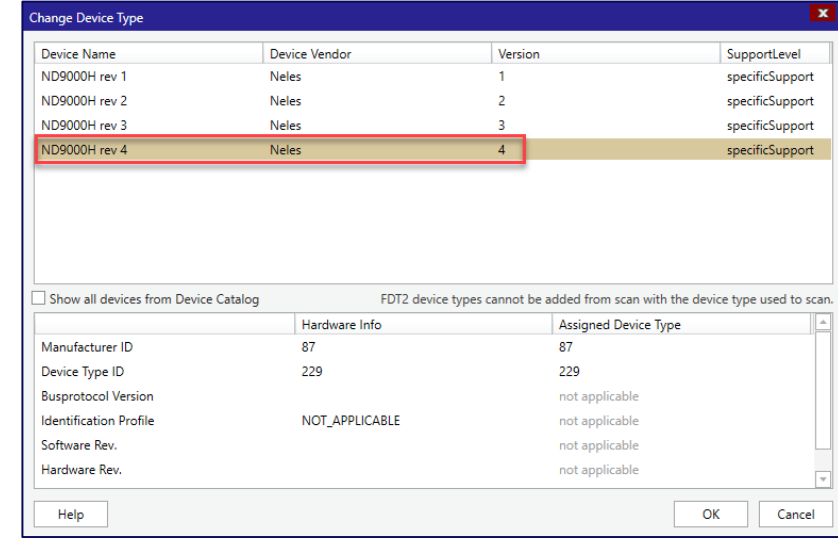
Launch fdtCONTAINER and select your template project



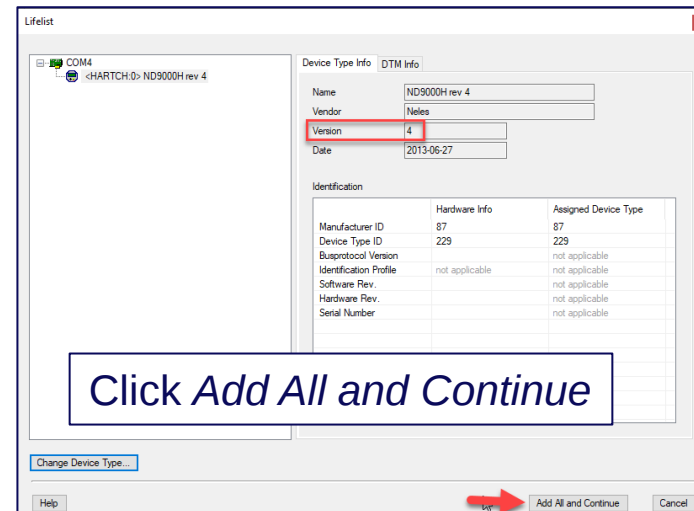
Right click on the commDTM and select Scan then Scan and Create



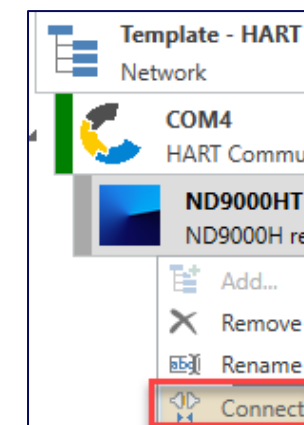
Click Change Device Type



Select the DTM revision matching the device

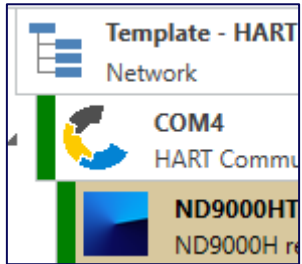


Click Add All and Continue



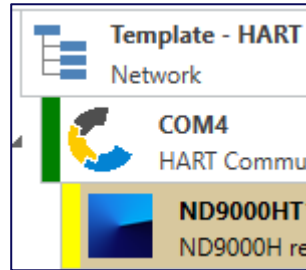
Right click on the DTM and select Connect Then double click to launch the DTM.

Typical Connection Issues

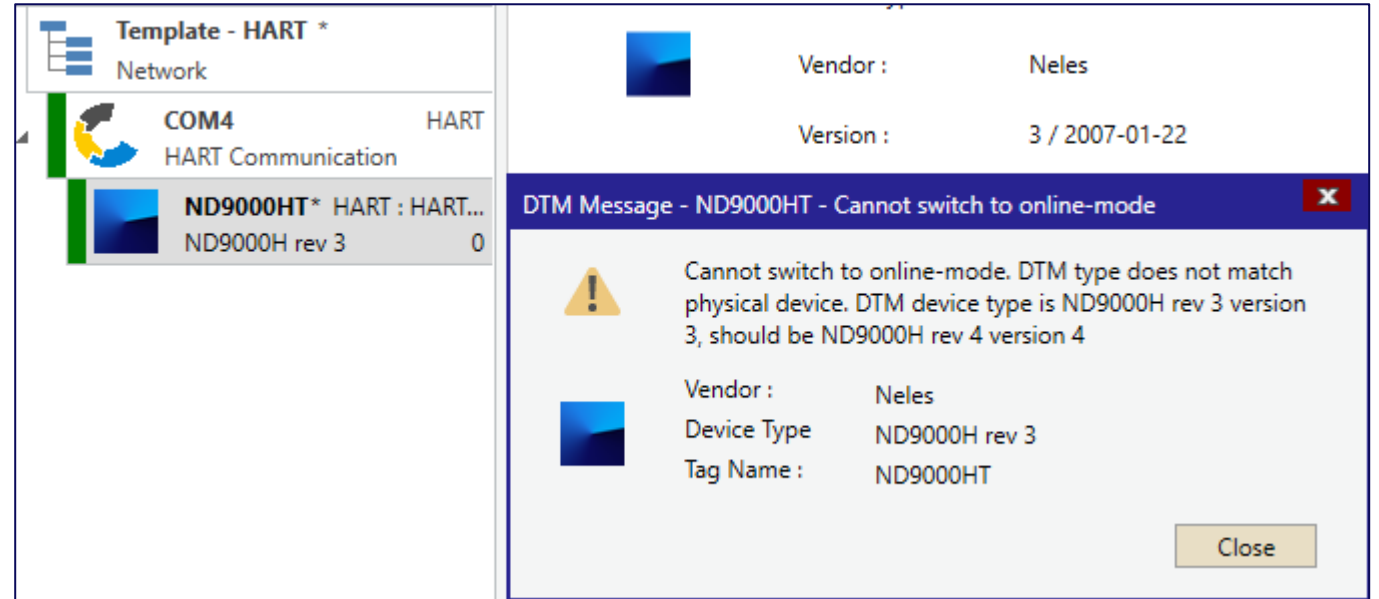


Green bars indicate a successful connection.

Note: If you lose communication later this will stay as green.



Yellow bars indicate a connection issue. Check device power, connection, and commDTM configuration



This message will be displayed if the incorrect DTM revision is selected (ND/SG/VG9000). The bar will turn yellow after clicking Close. Right click on the device DTM and select **disconnect**. Then select **remove** and re-scan for the device. Select the revision which was noted in the error message and re-connect.

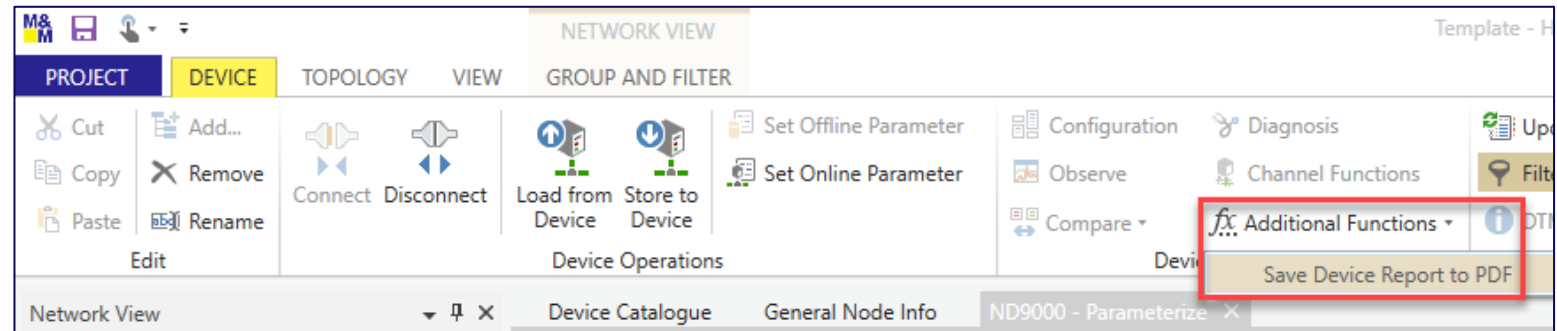
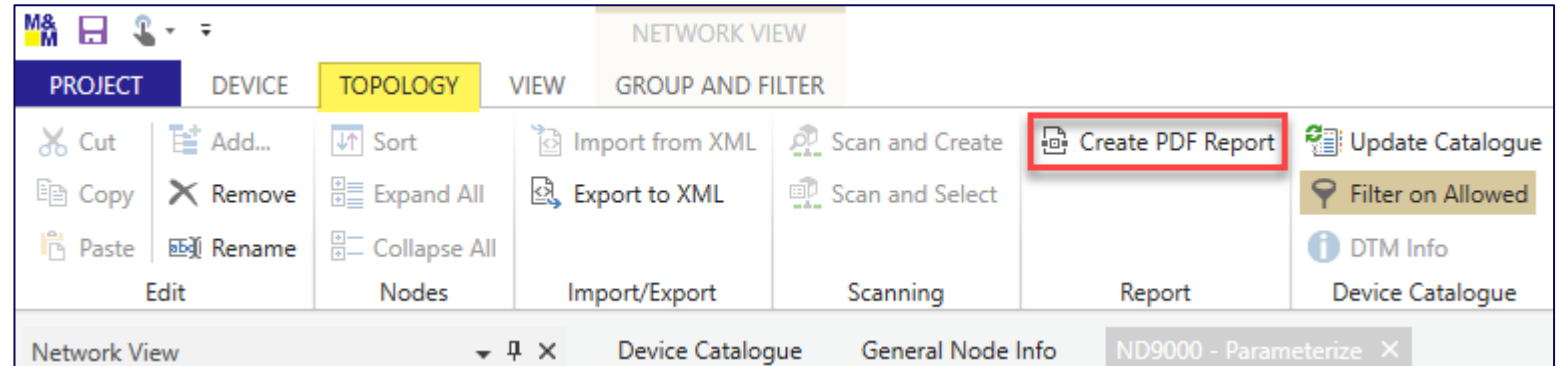
Saving Data

- Device Reports

- There are 2 options to create PDF device reports
 - Topology | Create PDF Report (report made through fdtCONTAINER)

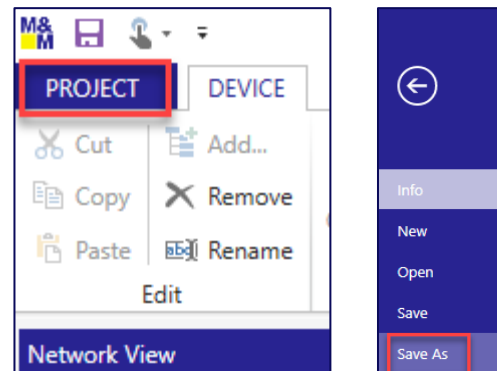
Or

- Device | Additional Functions | Save Device Report to PDF (report made through the Neles DTM)



- Saving Projects

- Project | Save As



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Neles Device DTMs

Overview

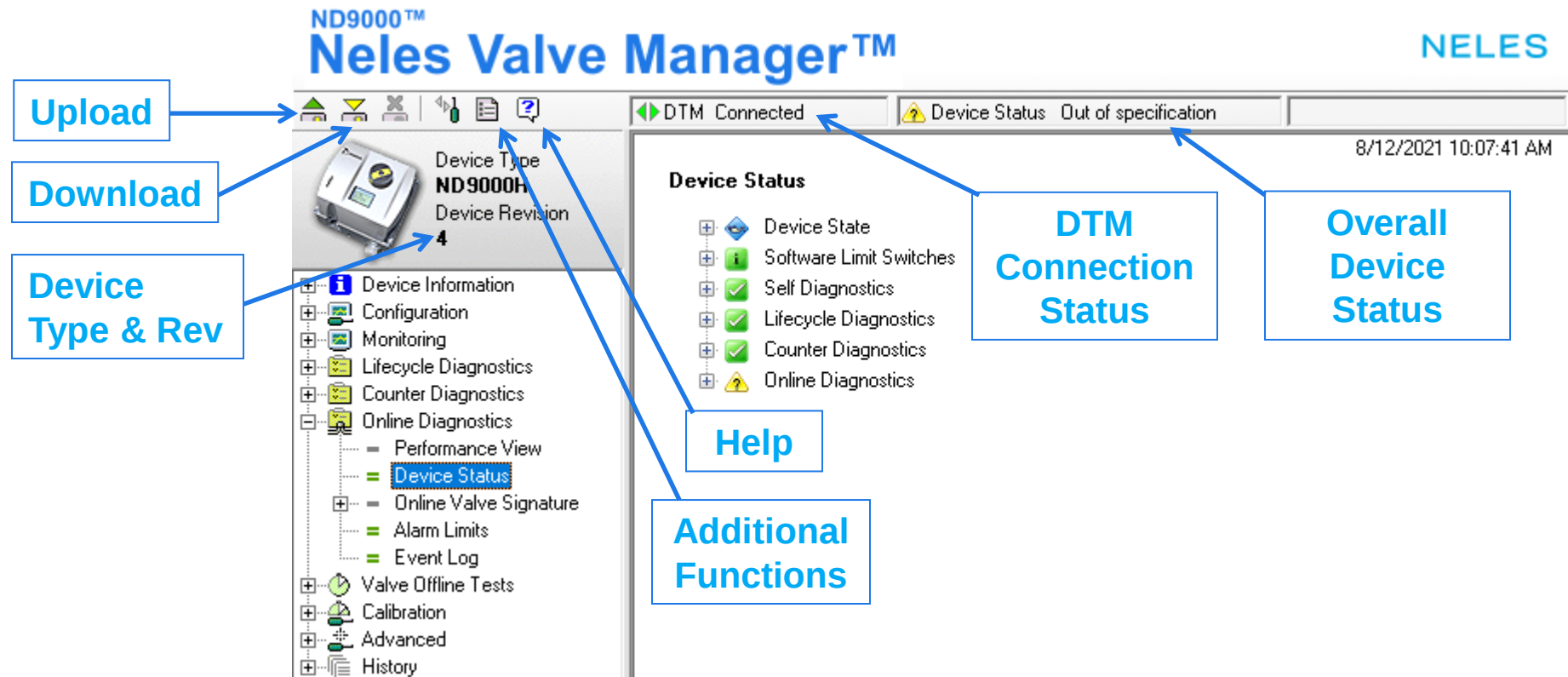
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Neles DTM Overview

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9000 Series DTM Design



Neles DTM Overview

NDX Series DTM Design

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Device
Type & Rev

Parameterize Online
(Configuration View)

The screenshot shows the 'Parameterize Online' window for an NDX H6 rev. 5 HART 6 Neles Valve Manager. The top status bar displays performance metrics: POS 39.77 %, TPOS 0.00 %, SETP 0.02 %, S 0.08 bar, I 0.07 bar, and II -- bar. A warning icon indicates 'Device status: Out Of Specification'. Below this, five vertical bars represent the status of different components: Control (green, OK), Positioner (yellow, warning), Actuator (green, OK), Valve (green, OK), and Environment (yellow, warning). A message at the bottom states: 'Positioner: Position Transmitter Not Connected. Connect external supply voltage or disable status in DTM/EDD Status Configuration view.' The left sidebar contains a menu with 'Performance' selected, and other options like 'Device Information', 'Commissioning', 'Status Configuration', and 'All Parameters'. At the bottom, there are buttons for 'Refresh', 'OK', 'Cancel', 'Apply', and a help icon. A 'DTM Connection Status' bar at the very bottom shows 'Connected' and 'Device/Data set'.

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Performance

POS 39.77 % TPOS 0.00 % SETP 0.02 % S 0.08 bar I 0.07 bar II -- bar

Device status: Out Of Specification

Control Positioner Actuator Valve Environment

Positioner: Position Transmitter Not Connected
Connect external supply voltage or disable status in DTM/EDD Status Configuration view.

Refresh OK Cancel Apply ?

Connected Device/Data set Planning Engineer

Diagnosis
(Diagnostics View)

The screenshot shows the 'Diagnosis' window for the same NDX H6 rev. 5 HART 6 Neles Valve Manager. The top status bar displays performance metrics: POS 39.80 %, TPOS 0.00 %, SETP 0.03 %, S 0.08 bar, I 0.06 bar, and II -- bar. A warning icon indicates 'Device status: Out Of Specification'. Below this, five vertical bars represent the status of different components: Control (green, OK), Positioner (yellow, warning), Actuator (green, OK), Valve (green, OK), and Environment (yellow, warning). A message at the bottom states: 'Positioner: Position Transmitter Not Connected. Connect external supply voltage or disable status in DTM/EDD Status Configuration view.' The left sidebar contains a menu with 'Performance' selected, and other options like 'Online Valve Signature', 'Monitoring', 'Event Log', 'Offline Testing', 'Offline Test Results', 'Counters', 'Trends', and 'Valve Position Histogram'. At the bottom, there are buttons for 'Refresh', 'Apply', 'Close', and a help icon.

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Performance

POS 39.80 % TPOS 0.00 % SETP 0.03 % S 0.08 bar I 0.06 bar II -- bar

Device status: Out Of Specification

Control Positioner Actuator Valve Environment

Positioner: Position Transmitter Not Connected
Connect external supply voltage or disable status in DTM/EDD Status Configuration view.

Refresh Apply Close ?

DTM Connection Status

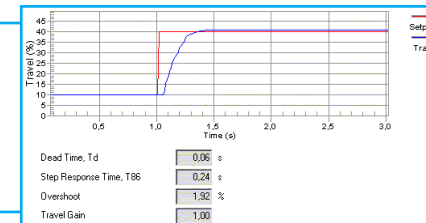
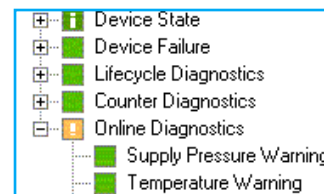
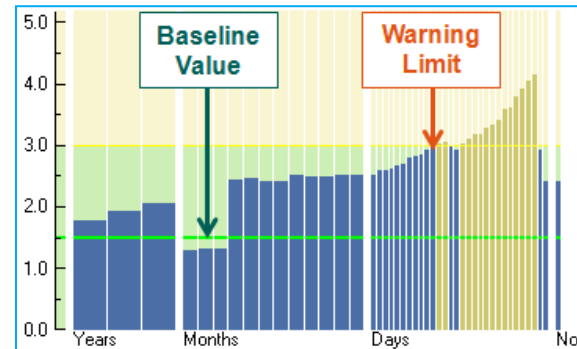
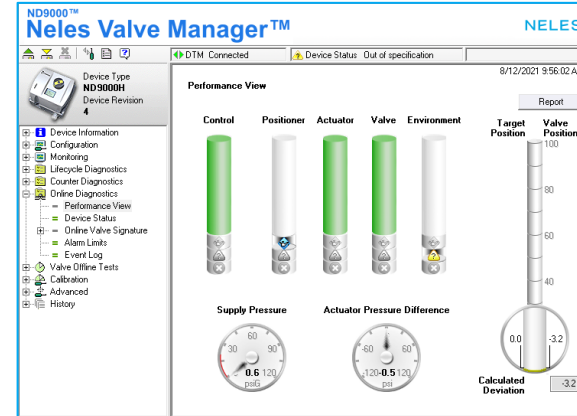
Designed for visibility into your valves

Neles Intelligent Valve Controllers

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Advanced diagnostics

- Integral pressure sensors and advanced diagnostics as standard
- User friendly metrics for valve assembly and trouble shooting guide
- Diagnostics automatically stored in onboard memory
 - Performance View Dashboard
 - Lifecycle Diagnostic Trends
 - Counters
 - Tests / Signatures
 - Monitoring / Event Log



Challenge

Lost or lower quality production

Expertise needed for diagnostic evaluation

No full asset management system

Solution

Advanced diagnostics

Application Based Diagnostics

Control, On/Off, and ESD

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- Control valve diagnostics (ND)
 - Steady/Dynamic state deviation
 - Stiction and load for opening
- On/Off valve diagnostics (SG)
 - Stroke time / reaction time
 - Breakaway and supply pressure
- ESD valve diagnostics (VG)
 - Partial stroke and pneumatics tests
 - Emergency trip test
 - Logging of emergency trips



Challenge

Need for diagnostics on more than just control valves

Documentation of PST test and emergency trips

Solution

Specialize devices and diagnostics based on application

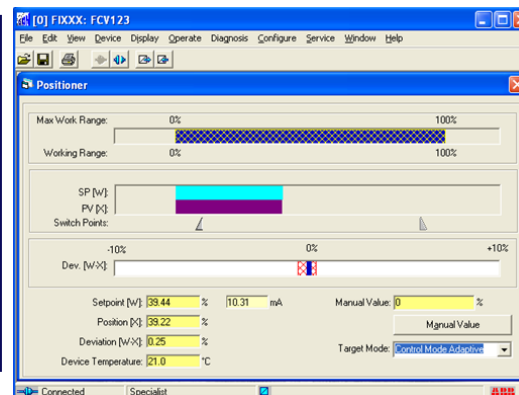
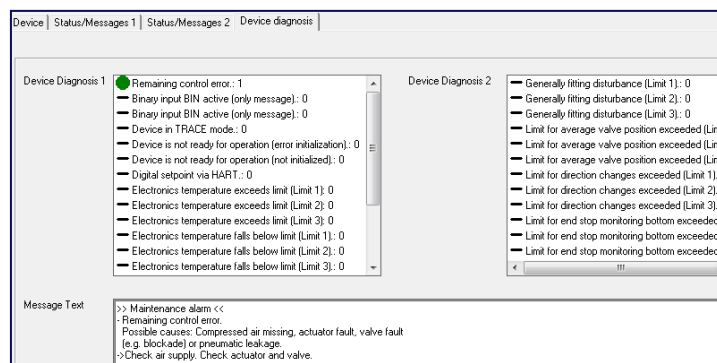
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Neles Intelligent Valve Controllers

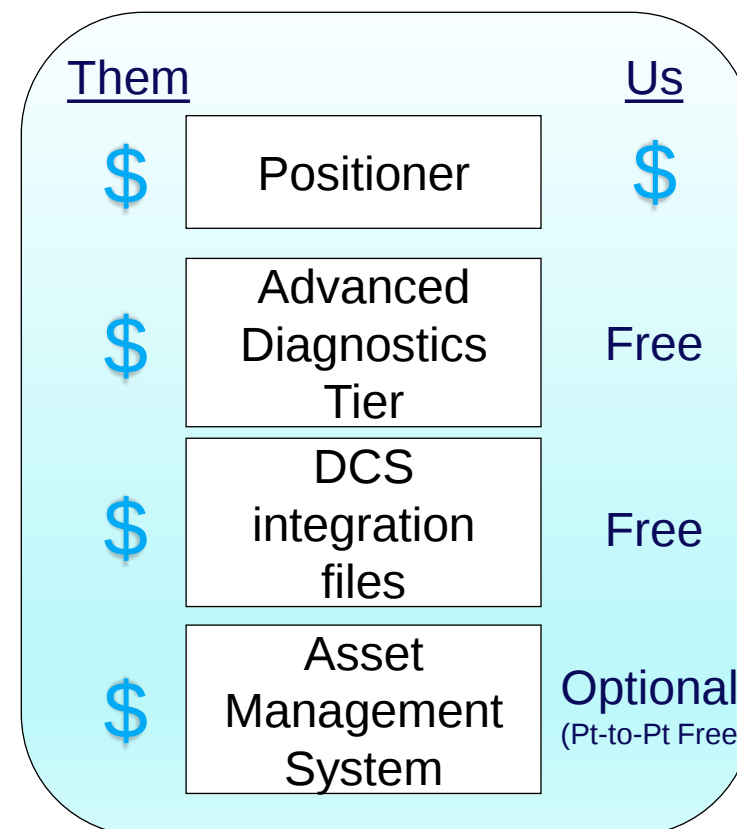
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Competitive analysis:

- No pressure sensors
- Very basic diagnostics
- Extra \$ for advanced diagnostics tiers
- Full asset management system required (no local storage)



Basic diagnostic features only

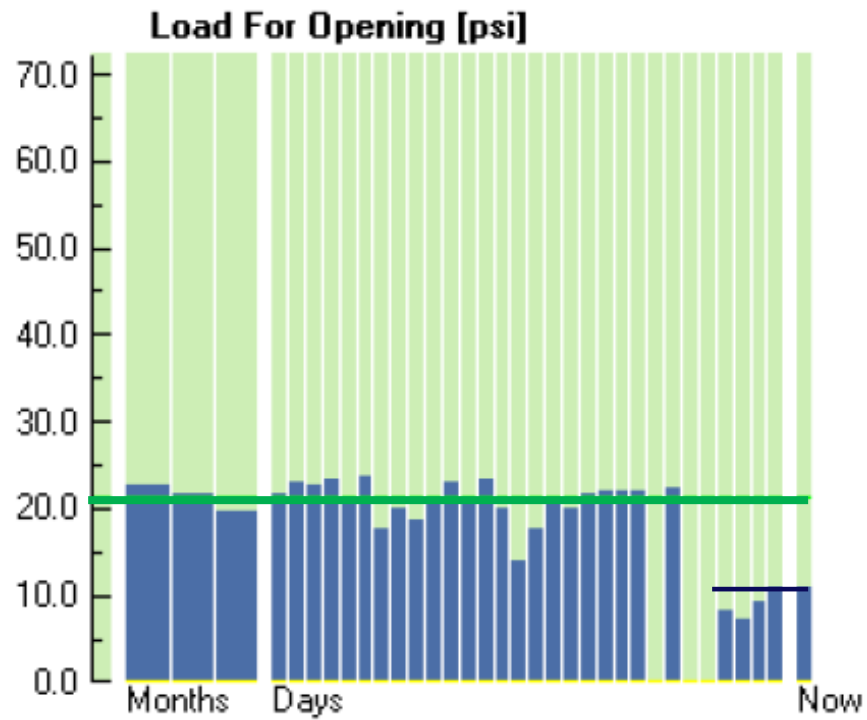


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Example 1: Seat Damage

- **Load for Opening** trend shows an eroded valve seat



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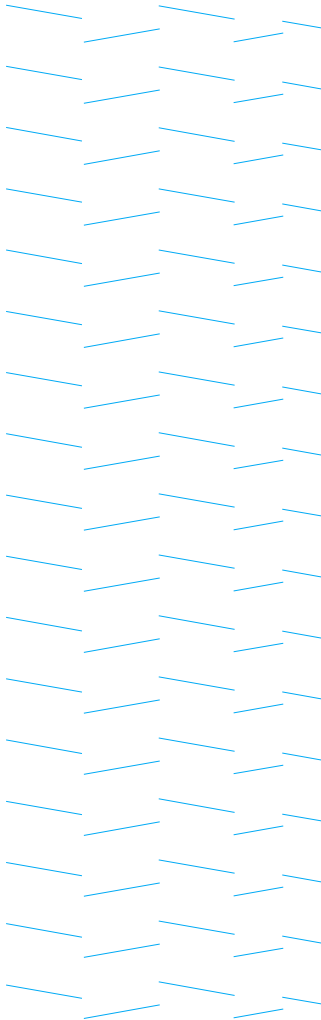
Example 2 - Actuator Leak

- **Problem**

- Leak is developing in the actuator or tubing
- Positioner compensates for the small leak by sending more air to the actuator.

- **Control system diagnostics**

- Once the actuator leak becomes more than the positioner can compensate for the process will be affected and process alarms will be activated



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Example 2 - Actuator Leak

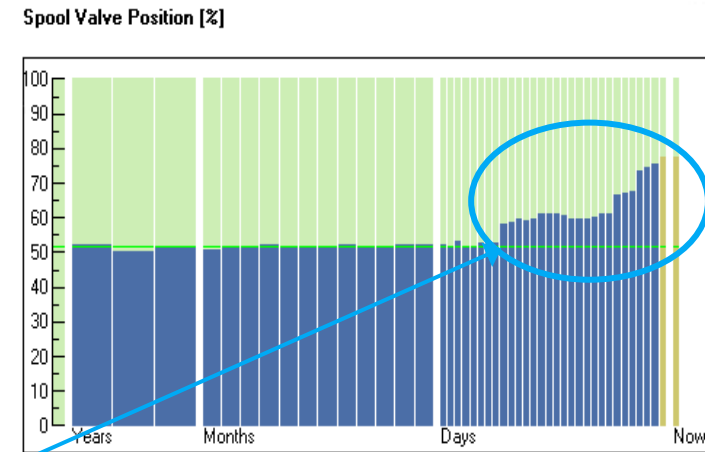
Different smart positioner diagnostic levels:

- **1st generation offline testing**

- Once actuator leak becomes more than the positioner can compensate for a deviation alarm will be activated since it can no longer follow the setpoint.

- **2nd generation online diagnostics**

- Trending clearly shows the change in pneumatics output to compensate for the leak. Some knowledge is required to know what this diagnostic means and what actions need to be taken.



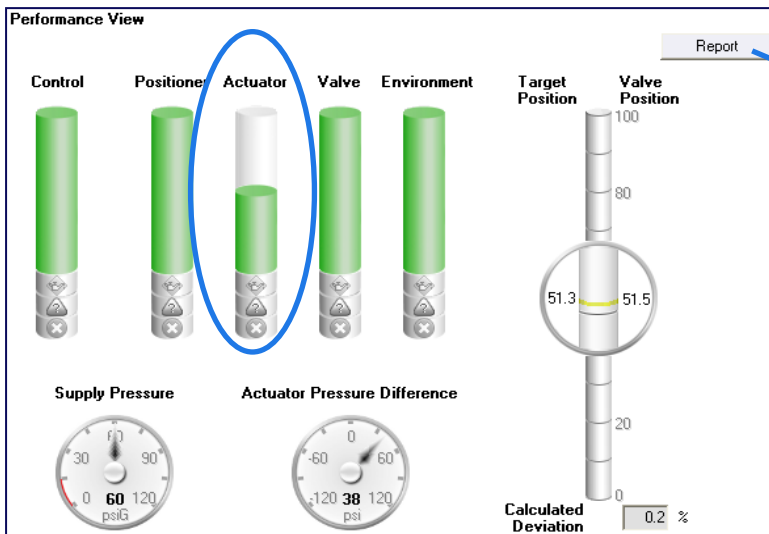
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Example 2 - Actuator Leak

Different smart positioner diagnostic levels:

- **3rd generation simplified online diagnostics**
 - Diagnostics are broken down into key indexes and clearly show a problem developing with the actuator. A clear description is given describing the problem and recommended actions.



Performance Report					
Supply Pressure	60.0	psiG	Valve Position	51.5	%
Actuator Pressure Difference	38.0	psi	Target Position	51.3	%
			Calculated Deviation	0.2 %	
Actuator	Possible pneumatic leakage.				
Check the 'Spool Valve Position' trend. Pneumatic leakage can be seen when the trend level has increased or decreased.					

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DCS Integration Summary

Neles Integration Details

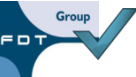
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Interoperability with asset management systems

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- Neles intelligent valve controllers are based on open FDT/DTM technology
- Neles works in close collaboration with key DCS system vendors and ensures full technical interoperability with others
- Clear cooperative commitment from both DCS system vendors and Neles
 - Development of open solutions with verified interoperability and continued joint development to further benefit customers

	ABB 800xA	
	Emerson AMS v12 .x	
	Emerson DELTA V/AMS	
	375/475 Field Communicator	
	Foxboro IA	
	Honeywell Experion	
	Valmet DNA FDM	
	Rockwell AssetCentre	
	Siemens Simatic PDM	
	Yokogawa PRM	

Workflow for setting up Predictive Maintenance

Overview

- Install and configure the Asset Management system.
 - Install the Neles Device DTMs onto the Asset Management PC.
 - Configure the network to communicate with the field devices.
 - Scan the network and configure the device tags to the appropriate addresses.
- Configure the Device
 - Configure the device for operation through the Local User Interface (LUI) or remotely through HART. Once complete run a calibration.
- Configure the Device Alert Limits
 - Some limits are dependent on valve/actuator type/size and/or process/ operating conditions. In these cases it is easier to define the limits after a few months of operation. The trend level will have then settled to the normal level and limits can be set accordingly, i.e. 20% higher than the trend value.
 - Alert limits should be set according to criticality and/or application requirements.
 - E.g. in PSA applications, or similar, where the valve moves very fast and spends most of the time fully open/closed, dynamic state deviation should be set high. The Steady state deviation alarm should be set to 5 seconds so the alarm will have enough time to activate if needed.

Diagnostics Interpretation Process

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Overview



Use the asset management programs alert monitor to find any active device alerts.



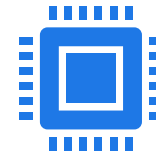
When an alert is active, launch the DTM to get more information

The Performance / Safety View analyzes the collected online diagnostic information and presents a graphical overview of the health the valve assembly. This view contains a report feature which provides further explanation of any detected problems and recommended actions.



Online Monitoring

The device variable monitoring shows a real time trace of the valve position, setpoint, and other key measurement values. The operator may also be able to give a small setpoint change to monitor how the valve behaves.



Offline Tests

If process conditions allow, offline tests move the valve independently of the control signal to tests its performance. Two different offline tests can be overlaid to detect any changes over time.

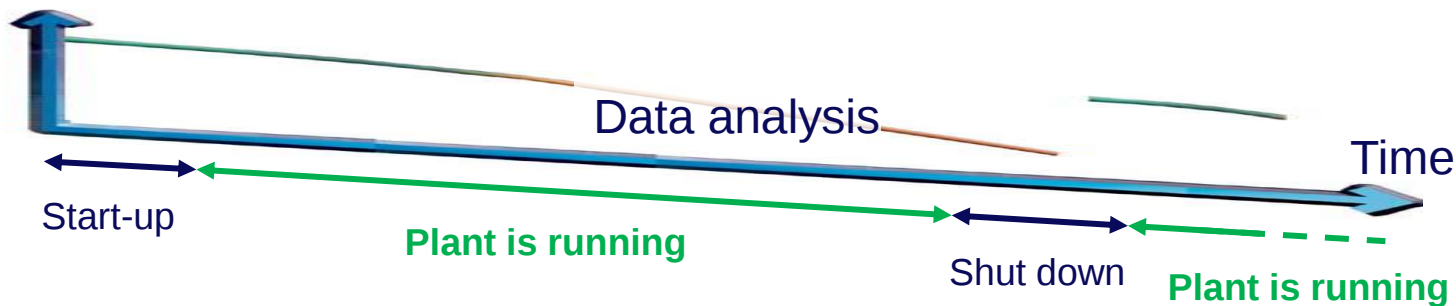
Designed for improved shutdown planning

Neles Intelligent Valve Controllers

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Advanced diagnostics while the plant is running

- Valve performance assessed during run-time
- No extra work during start-up / shut-down
- Diagnostic data automatically stored onboard



Challenge

Short shut-downs

Wasted time / \$ repairing good valves

Parts not available during shutdown

Solution

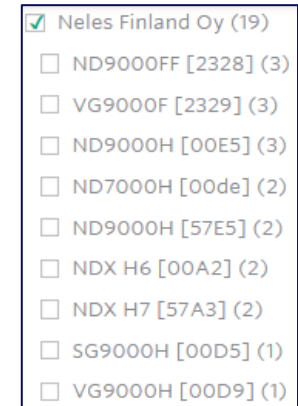
Advanced diagnostics while the plant is running

Emerson AMS

Neles DCS Integration

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- EDD files available for download through Neles or Emerson
 - www.emerson.com/en-us/support/software-downloads-drivers
 - Supports most features but some features cannot be implemented
 - Missing Features: Performance View, Test/Parameter History, Device Report...
- DTMs are supported in rev 12.x and up (latest is 14.x)
 - Supports all features except for the Device Report
 - DTM v1.21 and up includes an integral device report so the missing functionality from AMS is not an issue anymore.
 - Note: AMS v12.0 & v12.5 require a hotfix (NK-1300-0120) from Emerson



Emerson AMS

Neles DCS Integration

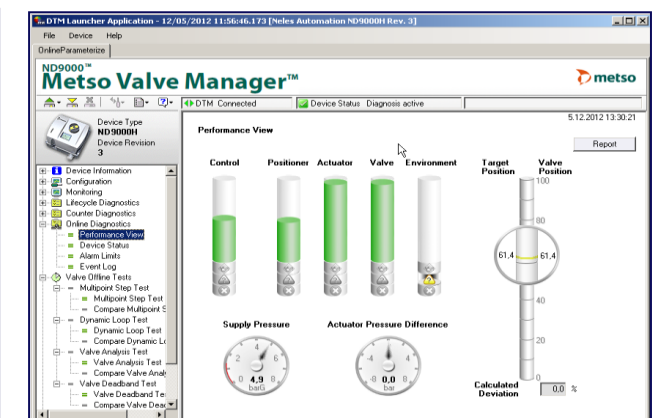
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- Installation/Configuration of DTMs into Emerson AMS
 - PDF Guide Available from Neles
 - Note: DTM launcher is hidden until configured
- Basic Steps
 - Download and install the EDD files
 - Download and install the DTM files on each AMS client PC
 - Use DTM Catalog Manager to configure the DTMs to match the EDD revision.
 - In Device Explorer right click on the device and select DTM Launcher Application
 - Select Go Online and then Online Parameter

DTM Catalog Manager

DTM Catalog Last Updated: 7:47:04 AM on Tuesday, September 29, 2015
Use the table below to associate DTM Device Types to AMS Device Manager Manufacturer device type revisions

Device Type	DTM Device Type Name	Revision/Version	Vendor	Date	DTM
VG9000H		2	Neles Automation		
ND9000H		1	Neles Automation		
	ND9000H	1	Metso Automation 2003-01-10		Metso Device DTM
	ND9000H	2	Metso Automation 2005-06-21		Metso Device DTM
	ND9000H	3	Metso Automation 2007-01-22		Metso Device DTM
	ND9000H	4	Metso Automation 2013-06-27		Metso Device DTM
	ND9000H	10	Metso Automation 2013-06-27		Metso Device DTM
ND9000H		2	Neles Automation		
	ND9000H	1	Metso Automation 2003-01-10		Metso Device DTM
	ND9000H	2	Metso Automation 2005-06-21		Metso Device DTM
	ND9000H	3	Metso Automation 2007-01-22		Metso Device DTM
	ND9000H	4	Metso Automation 2013-06-27		Metso Device DTM
	ND9000H	10	Metso Automation 2013-06-27		Metso Device DTM
ND9000H		3	Neles Automation		
	ND9000H	1	Metso Automation 2003-01-10		Metso Device DTM
	ND9000H	2	Metso Automation 2005-06-21		Metso Device DTM
	ND9000H	3	Metso Automation 2007-01-22		Metso Device DTM
	ND9000H	4	Metso Automation 2013-06-27		Metso Device DTM
	ND9000H	10	Metso Automation 2013-06-27		Metso Device DTM
ValvGuard		2	Neles Automation		

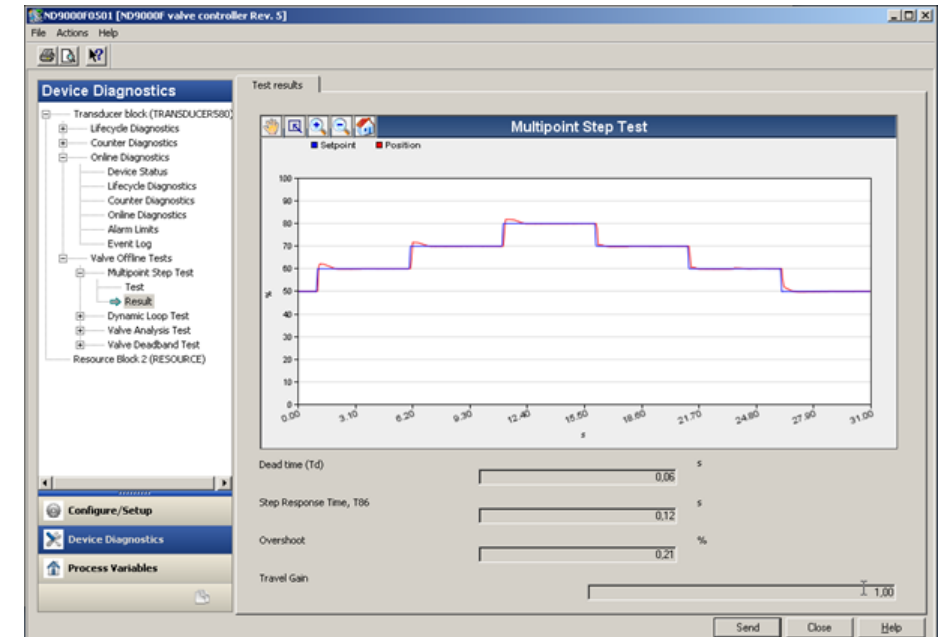


Emerson AMS

Neles DCS Integration

NELES

- Configuration and basic diagnostics can be done using the EDD file.
- Condition monitoring is achieved using “Alert Monitor” to see all active device alerts.
 - Alerts can be turned off to customize what you monitor and prevent nuisance alarms.
 - We are working on an update to categorize the ND9 alerts and include detailed alert information



Alert Monitor - Alert List

File Edit View Help

Configure Station Monitoring Audit Trail Alert Details Acknowledge Clear Alert

Active Alerts Unacknowledged

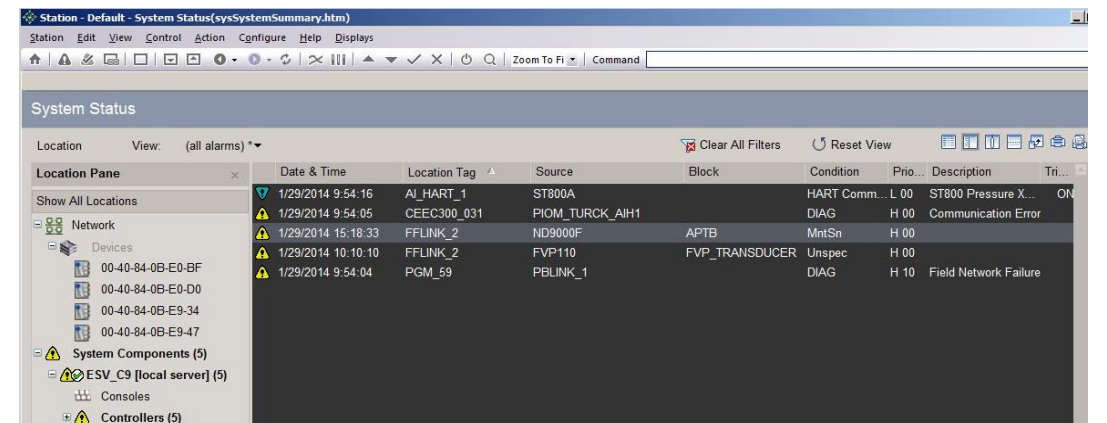
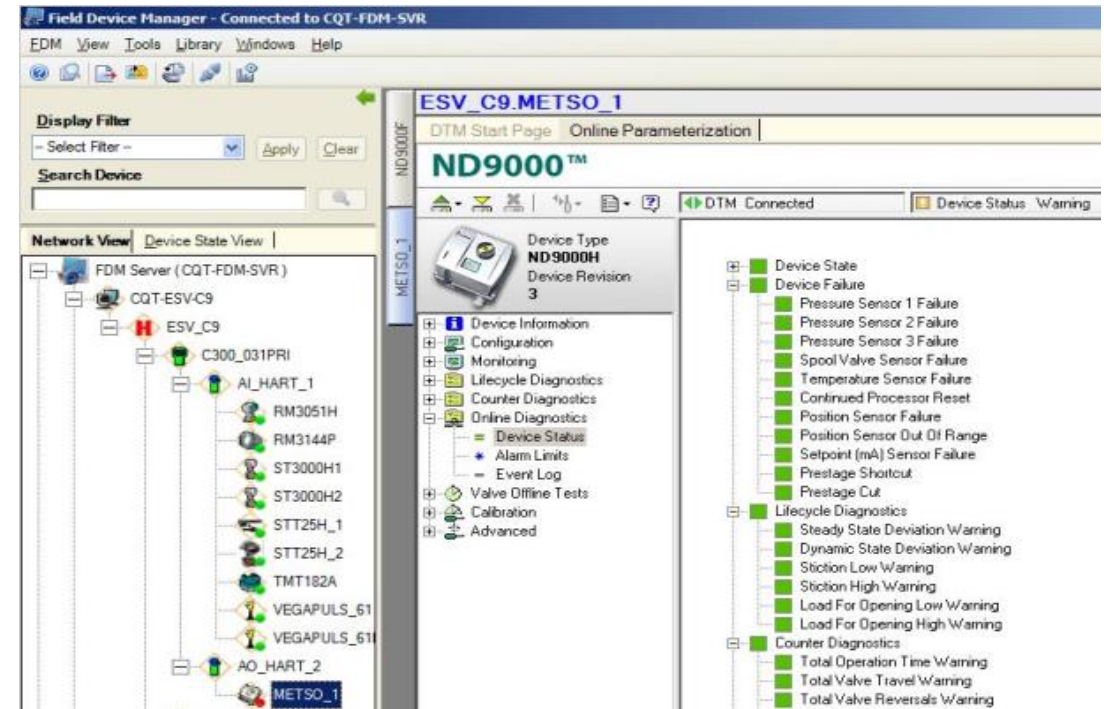
AMS Tag	Count	Time	Severity	Description
EWG-PA2-01	2	3/4/2021 5:54:49 ...	Advisory	No Devices
EWG-MCC-01	1	5/2/2021 2:38:02 ...	Maintenance	Field Device Power Failure
PTI-115	3	5/6/2021 2:14:49 ...	Advisory	Temperature Alert
PTI-113	3	5/6/2021 2:14:51 ...	Advisory	Temperature Alert
PTO-111	4	5/6/2021 2:14:52 ...	Advisory	Pressure Alert
PT-604	3	5/6/2021 2:15:00 ...	Advisory	Temperature Alert
PTO-112	3	5/6/2021 2:15:04 ...	Advisory	Temperature Alert
TT-105	1	5/6/2021 6:19:14 ...	Abnormal	001151_0848_08.alarm:1000.55:0/20...
FC-115	2	5/7/2021 2:07:01 ...	Failed	Performance Diagnostic - Valve Frict...
VX-012-MCC-001	1	5/7/2021 3:18:11 ...	No Communication	Not Communicating: AMS Wireless ...
VX-012-MCC-002	4	5/7/2021 3:18:11 ...	No Communication	Not Communicating: AMS Wireless ...

Honeywell

Neles DCS Integration

NELES

- Neles has been an PKS Advantage partner since 2005.
 - [Partnerships and Alliances](#)
- Integration into Field Device Manager (FDM) using DD and DTM files.
 - FDM Qualified DTMs: ND9, SG9, VG8, VG9
 - [FDM-DTM-Qualification-matrix.pdf](#)
- Condition Monitoring with Experion Station
- Honeywell PVST Planner
 - Integration with ValvGuard to schedule PST



Rockwell Automation

NELES

Neles DCS Integration

- Neles has been an Encompass / Technology partner since 2008.
 - [Rockwell Automation Partner Locator](#)
- DTM integration into FactoryTalk AssetCentre
- Various test reports available showing integration with Rockwell I/O cards
 - [Process Device Interoperability Testing for the PlantPAx System \(rockwellautomation.com\)](#)
 - Checking with Rockwell on an updated list (this one is from 2013)

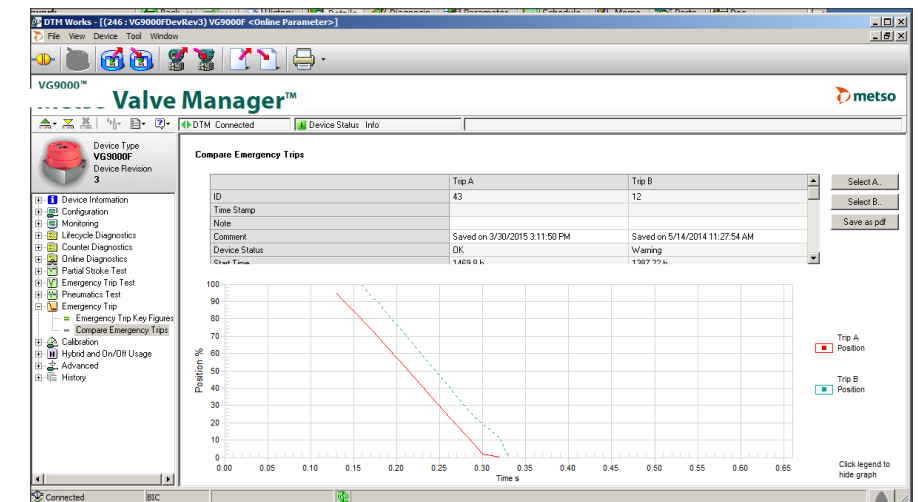
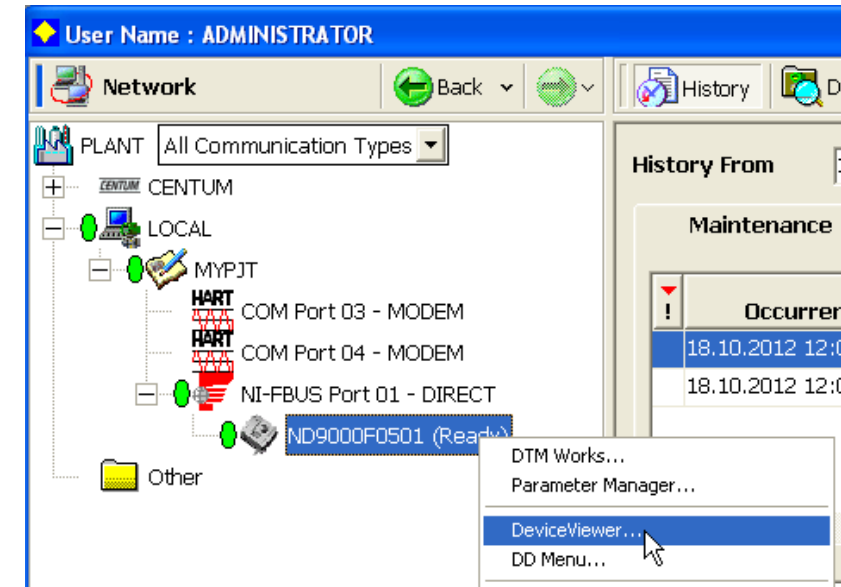


Yokogawa PRM / FieldMate

Neles DCS Integration

NELES

- Neles has co-operated in Yokogawa's VIP program since 2006
- FIST (FDT/DTM Interoperability Support Test)
 - DTM testing for PRM & FieldMate
 - Includes: ND8, ND9, NDX, VG8, VG9, SG9
 - [List of FIST Completed Devices | Yokogawa Electric Corporation](#)
- HIST (Host Interoperability Support Test)
 - Testing for Foundation Fieldbus
 - Includes: ND8_F, ND9_F, VG9_F
 - [List of HIST Completed Devices | Yokogawa Electric Corporation](#)

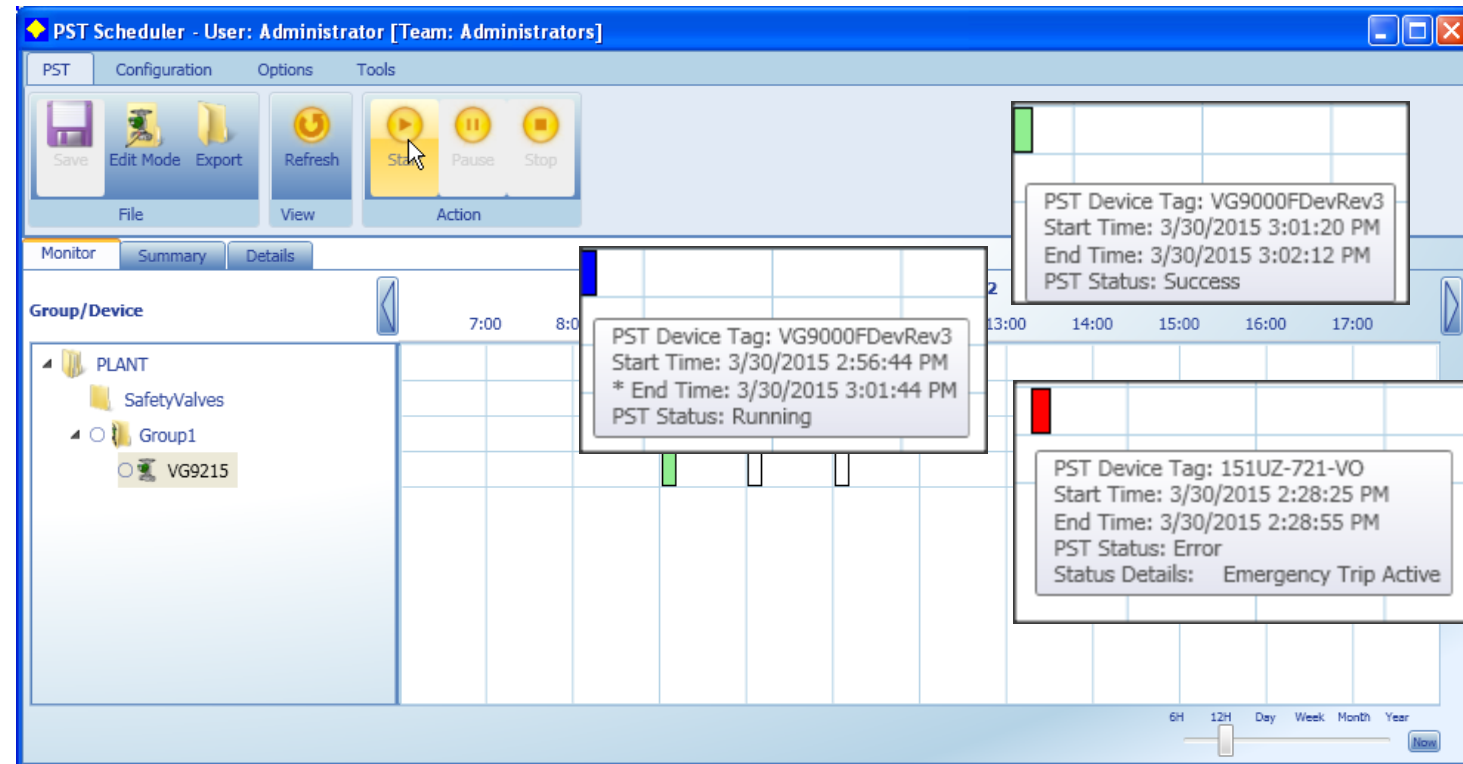


Yokogawa PST Scheduler

NELES

Neles DCS Integration

- Allows you to remotely execute all PSTs in the plant. Can be scheduled automatically, semi-automatically, or manually
- VG9000 HART & Foundation Fieldbus integration via FDT/DTM
 - [PST Scheduler Integration | Yokogawa Electric Corporation](#)



Contact us

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- Applications Engineering
 - apps.engineering@neles.com
- Area Sales Managers map
 - Link to [map](#)

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Software Installation

Instructions

October 1, 2021

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Installation Steps

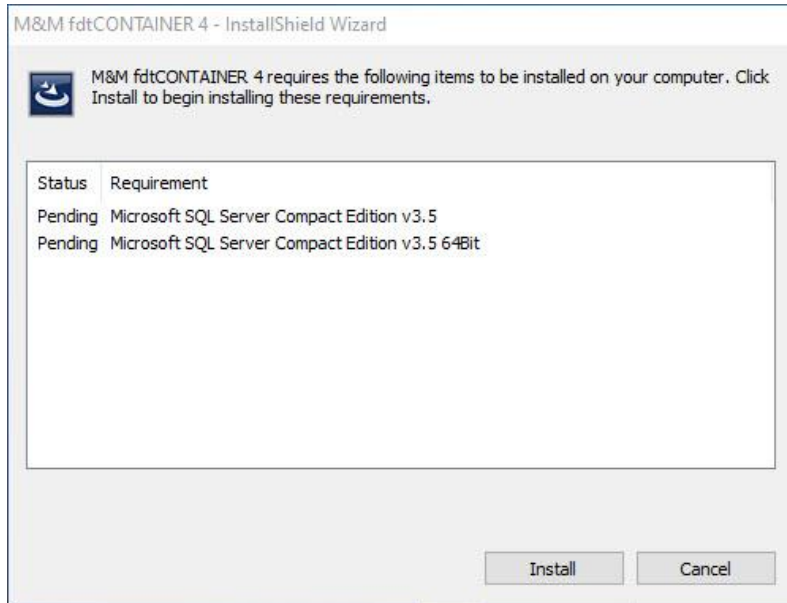
fdtCONTAINER 4

October 1, 2021

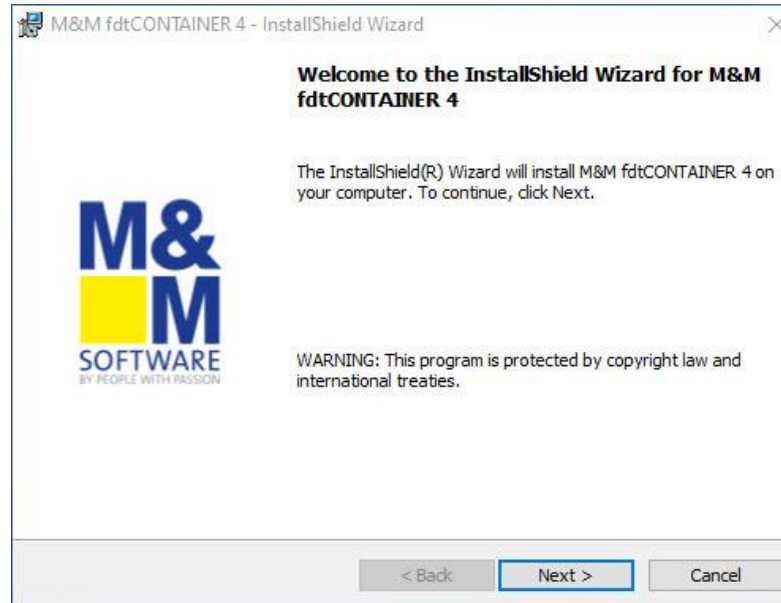
RESTRICTED

Installation Steps

fdtCONTAINER 4



Double click on the installation file and click **Install**



Click **Install**

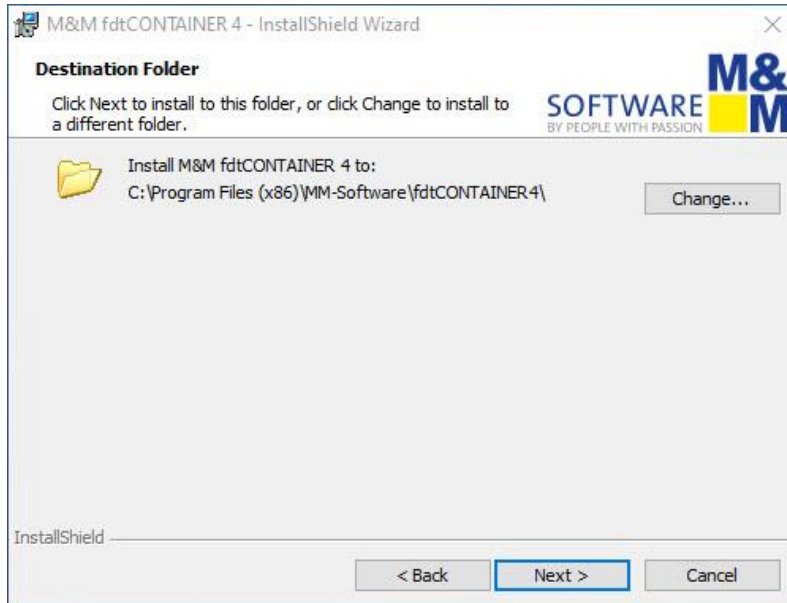


Read and select *"I accept the terms in the license agreement"* and then click **Next**

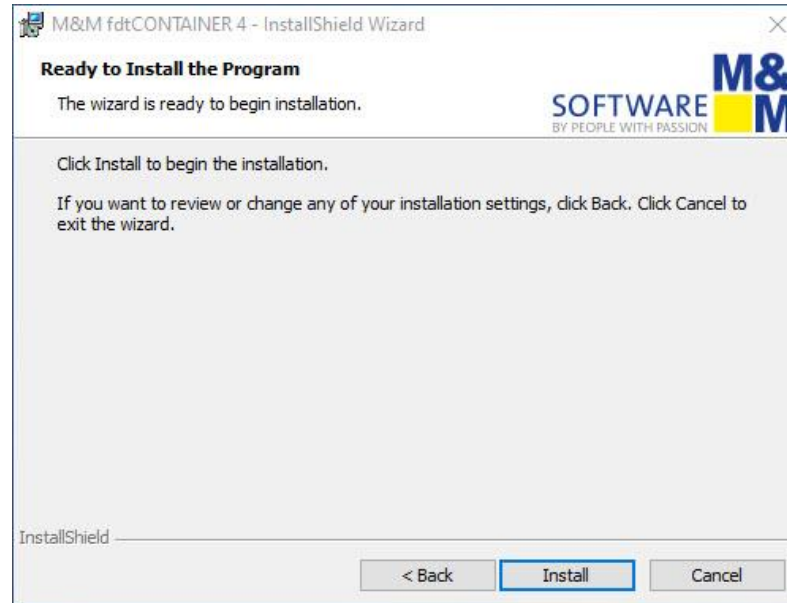
Installation Steps

fdtCONTAINER 4

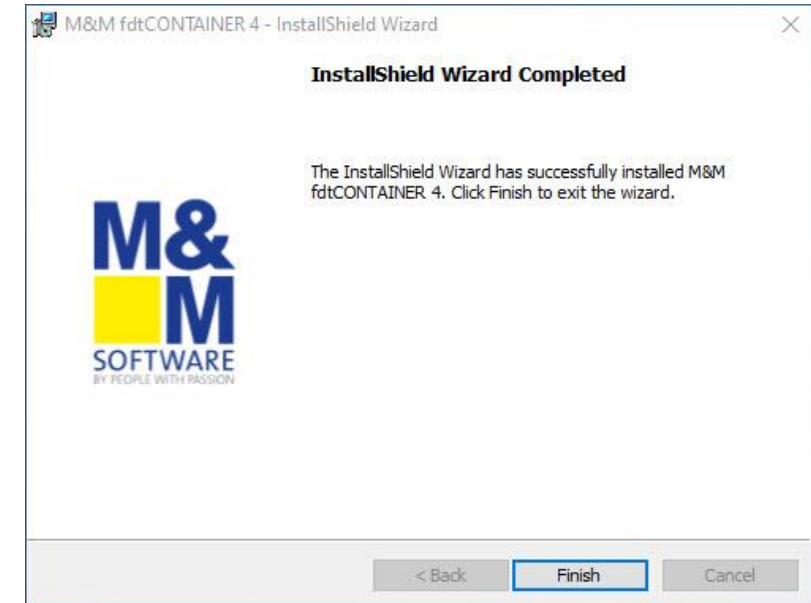
NELES



Click
Next



Click
Install



Click
Finish

NELES

Installation Steps

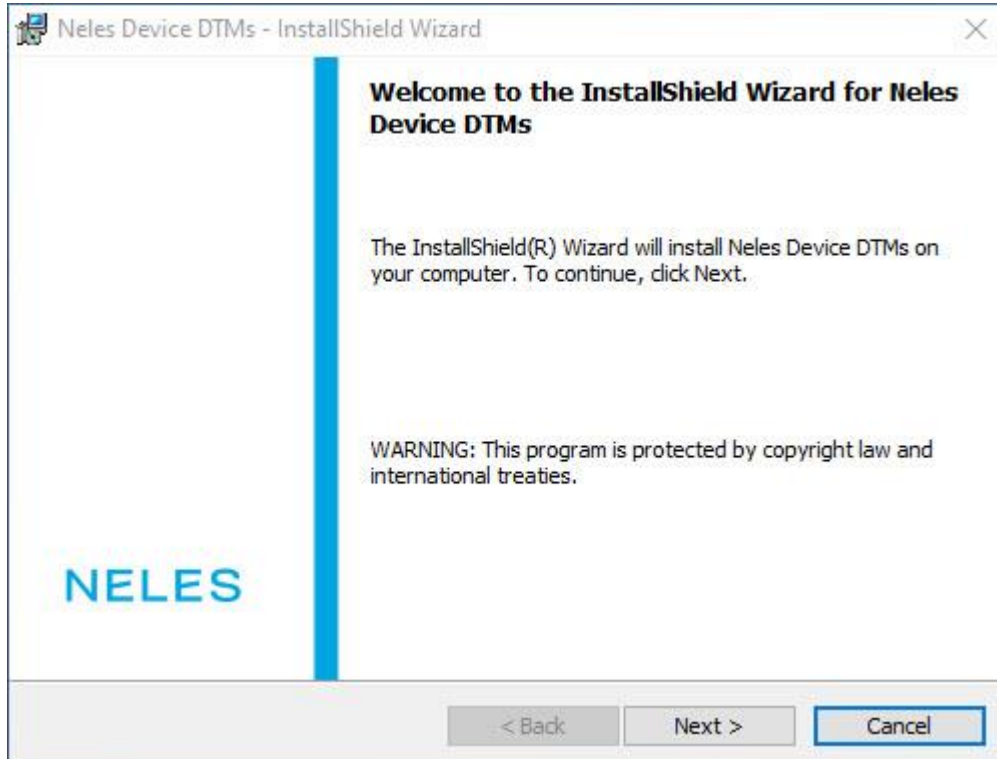
Neles Device DTM

October 1, 2021

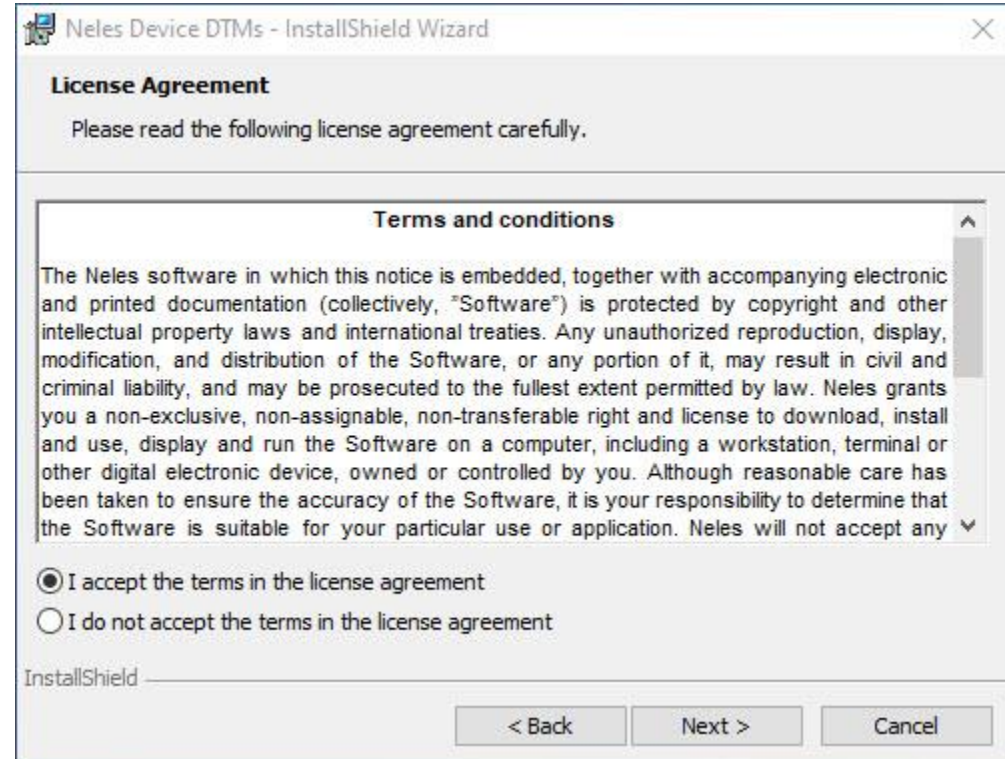
RESTRICTED

Installation Steps

Neles Device DTM



Double click on the installation file and click **Next**

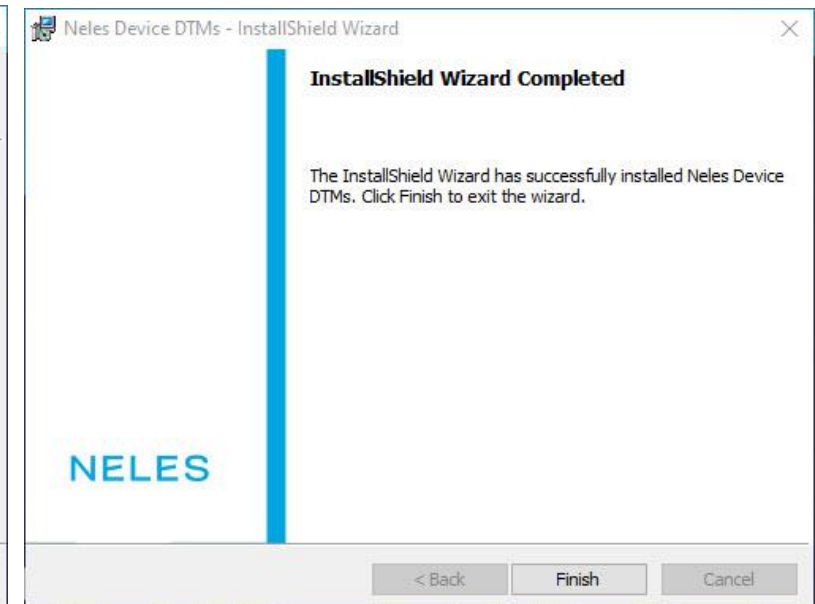
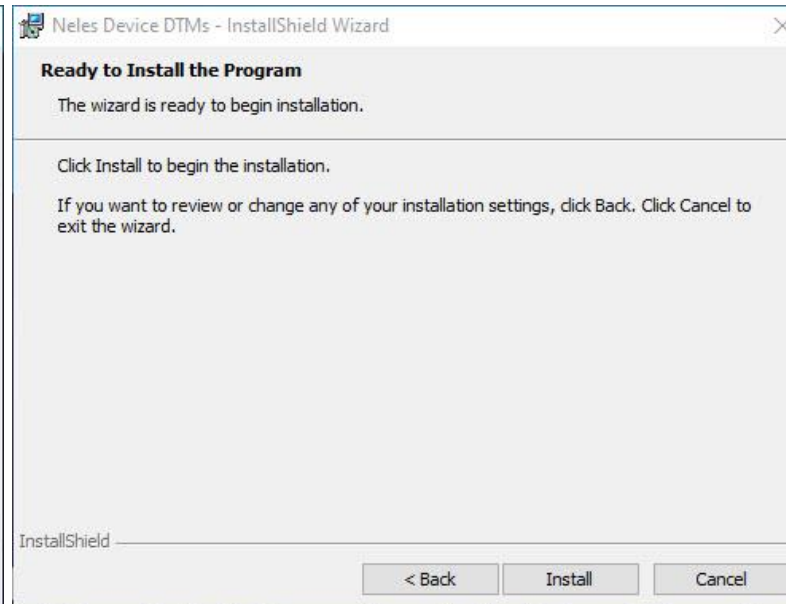
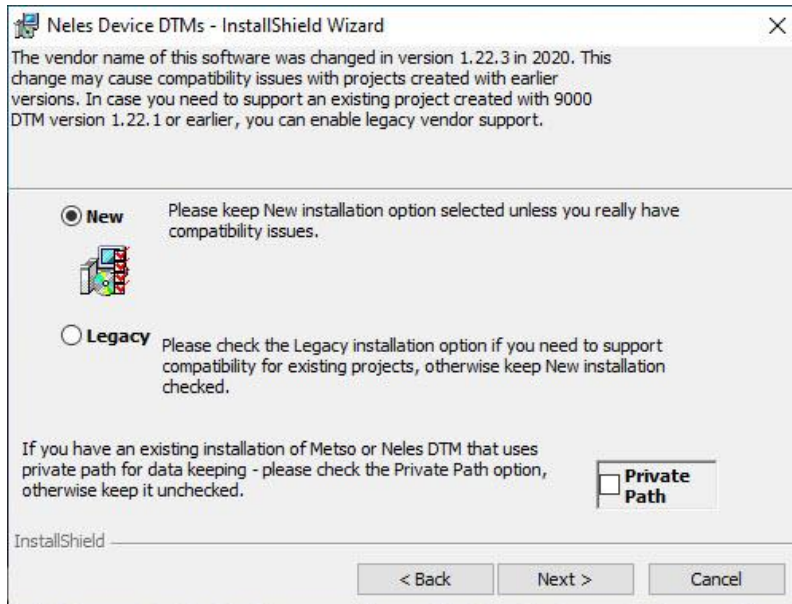


Read and select "*I accept the terms in the license agreement*" and then click **Next**

Installation Steps

Neles Device DTM

NELES



Select **New** for typical installations or select **Legacy** for existing installations where maintaining the previously saved data is required
Select **Private Path** if required by the AMS system to save the test history.
Click **Next**

Click
Install

Click
Finish

NELES

Installation Steps

Neles NDX Device DTM

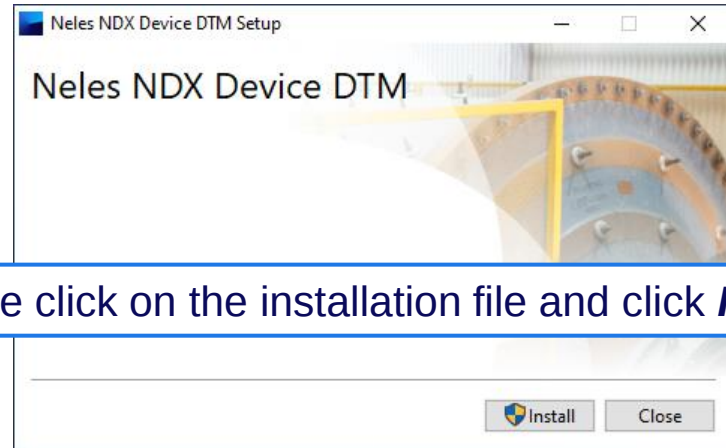
October 1, 2021

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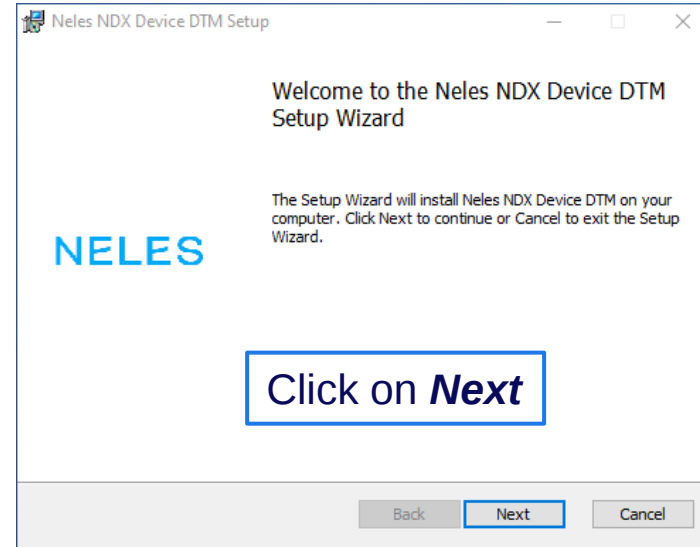
Installation Steps

NDX Device DTM

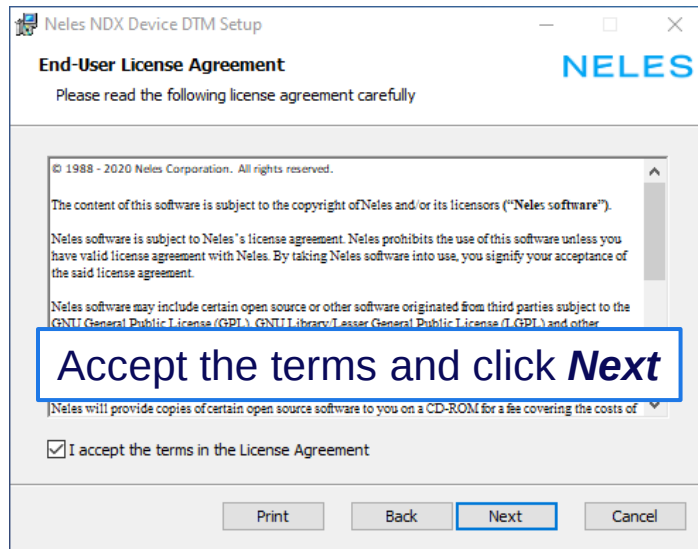
NELES



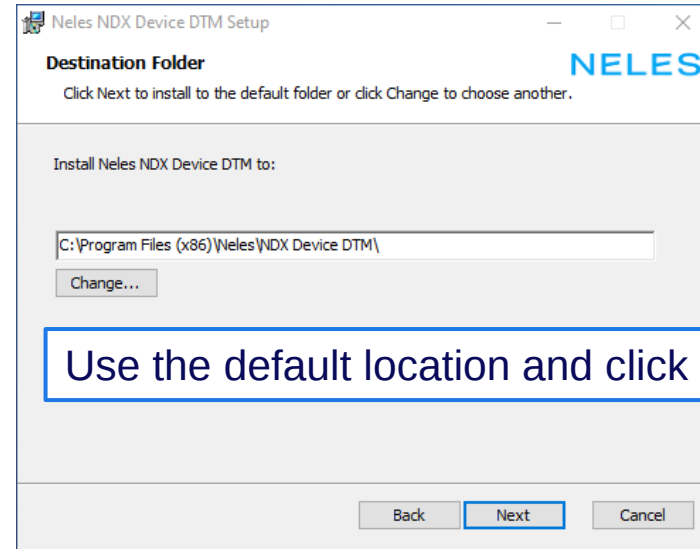
Double click on the installation file and click **Install**



Click on **Next**



Accept the terms and click **Next**

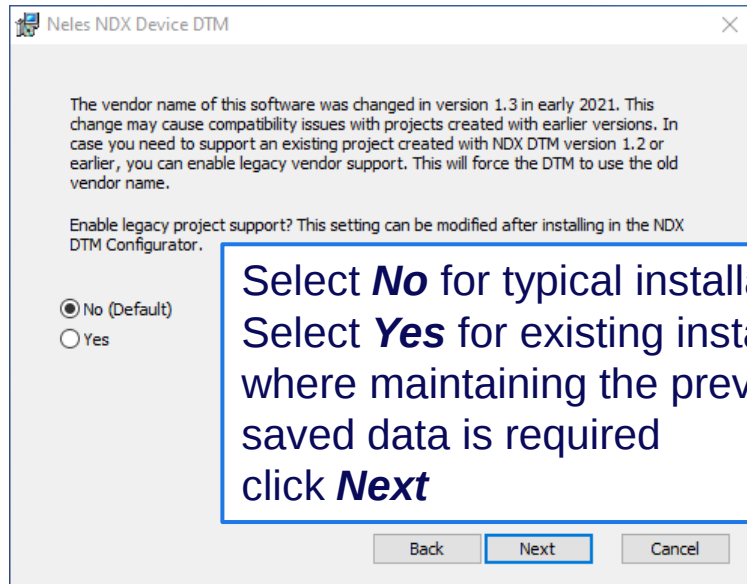


Use the default location and click **Next**

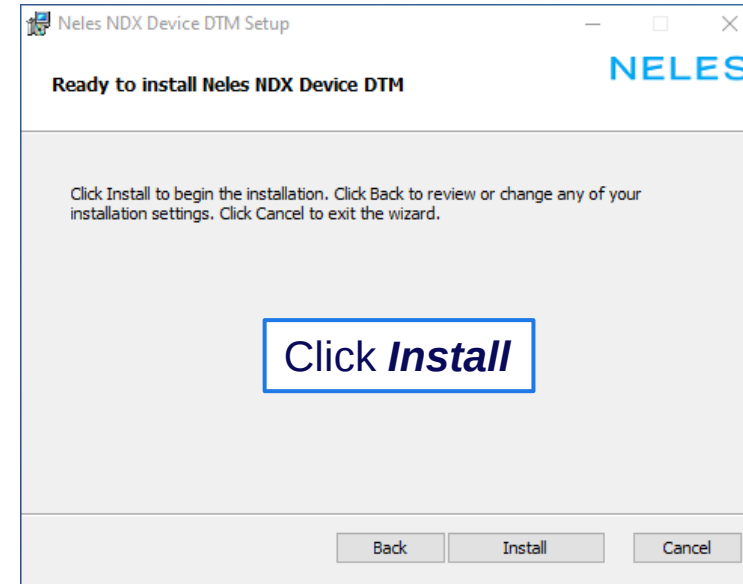
Installation Steps

NDX Device DTM

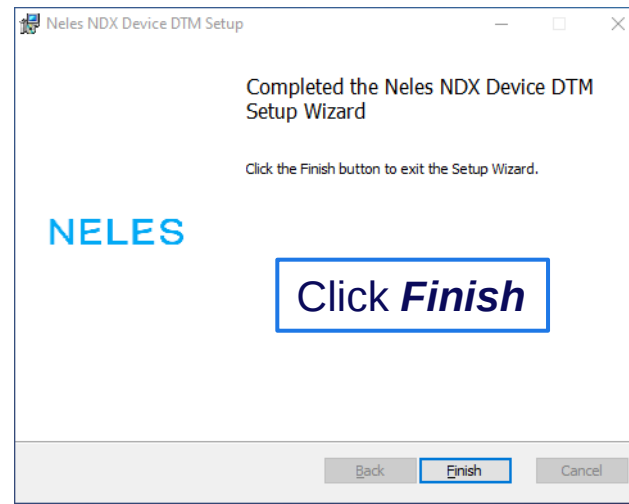
NELES



Select **No** for typical installations
Select **Yes** for existing installations
where maintaining the previously
saved data is required
click **Next**



Click **Install**



Click **Finish**



Click **Close**

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Installation Steps

HART commDTM v1.60

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Installation Steps

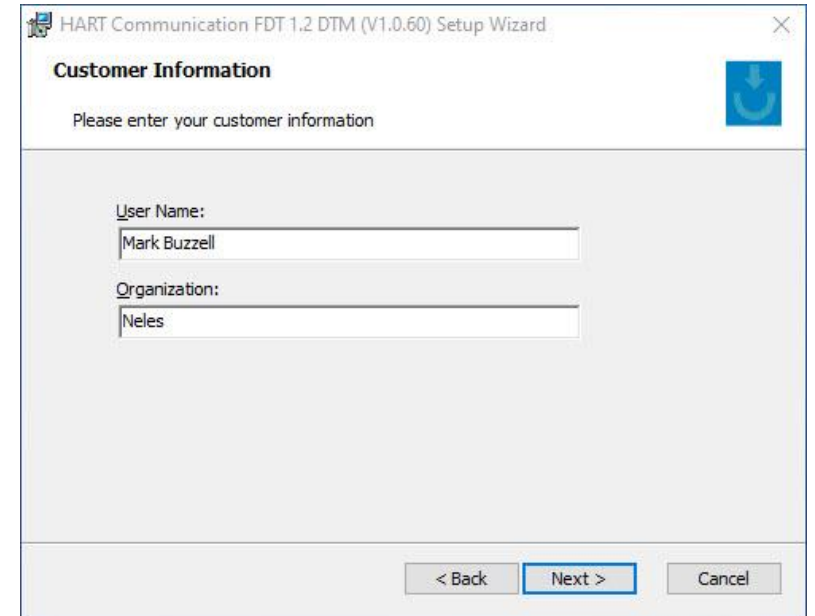
HART commDTM v1.60



Double click on the installation file and click **Install**



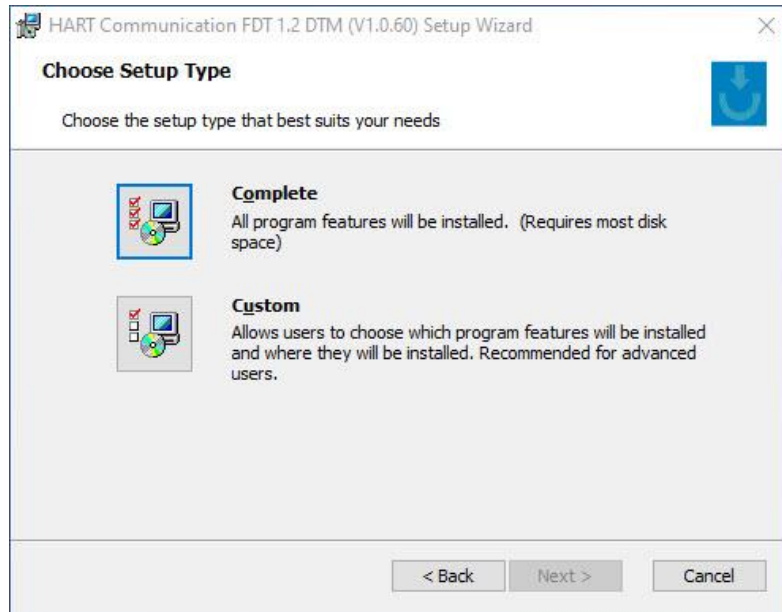
Read and select "*I accept the terms in the license agreement*" and then click **Next**



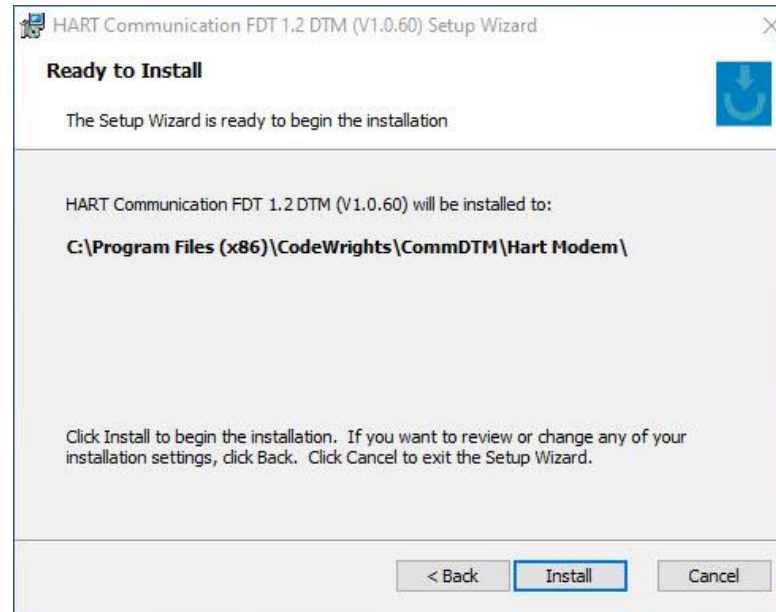
Enter the *User Name* and *Organization* and click **Next**

Installation Steps

HART commDTM v1.60



Select **Complete** for
typical installations
Click **Next**



Select **Install**



Select **Finish**

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Installation Steps

NDX USB Adapter Driver

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Installation Steps

NDX Device DTM

- The NDX USB adapter provides high speed communication to the NDX and 4-20mA power to any positioner. In order to use the adapter for communication you need to install the driver on your computer. It can be downloaded and installed from here.
 - [VCP Drivers - FTDI \(ftdichip.com\)](http://ftdichip.com)
 - Direct link for the latest Windows 10 drivers [CDM 2.12.36.4 Setup](#) (as of 8/19/2021)
- Following the installation steps with the USB cable disconnected. Connect the USB adapter to the PC.

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