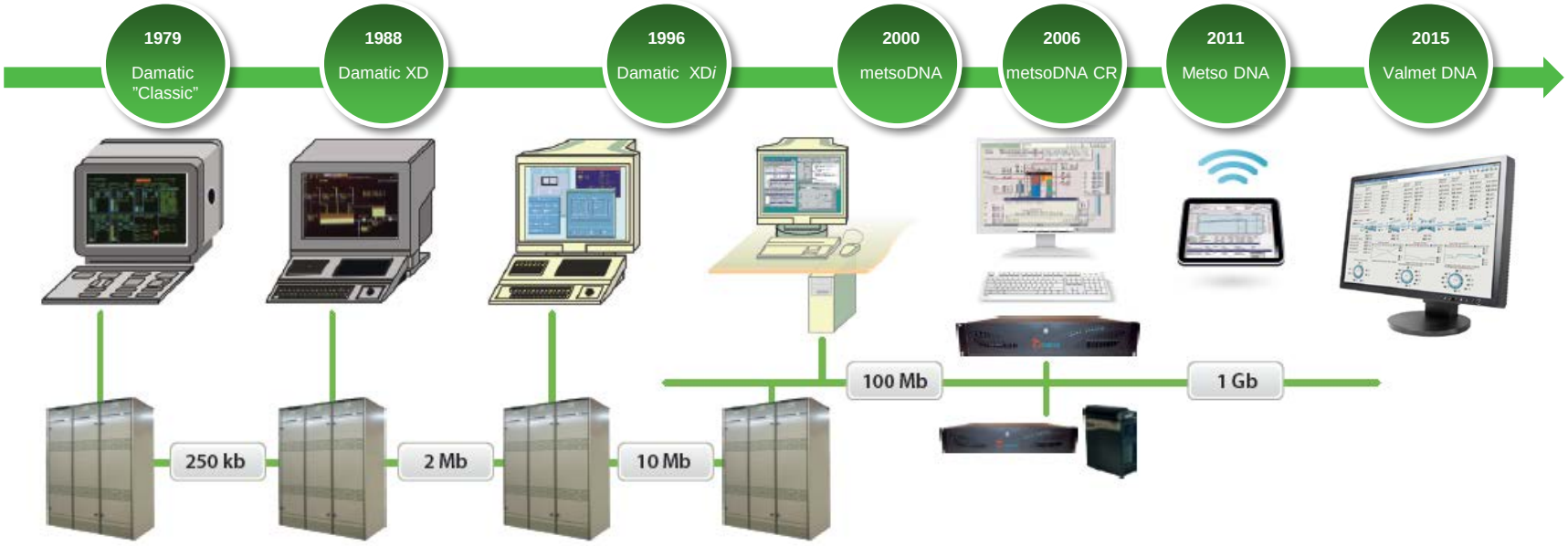
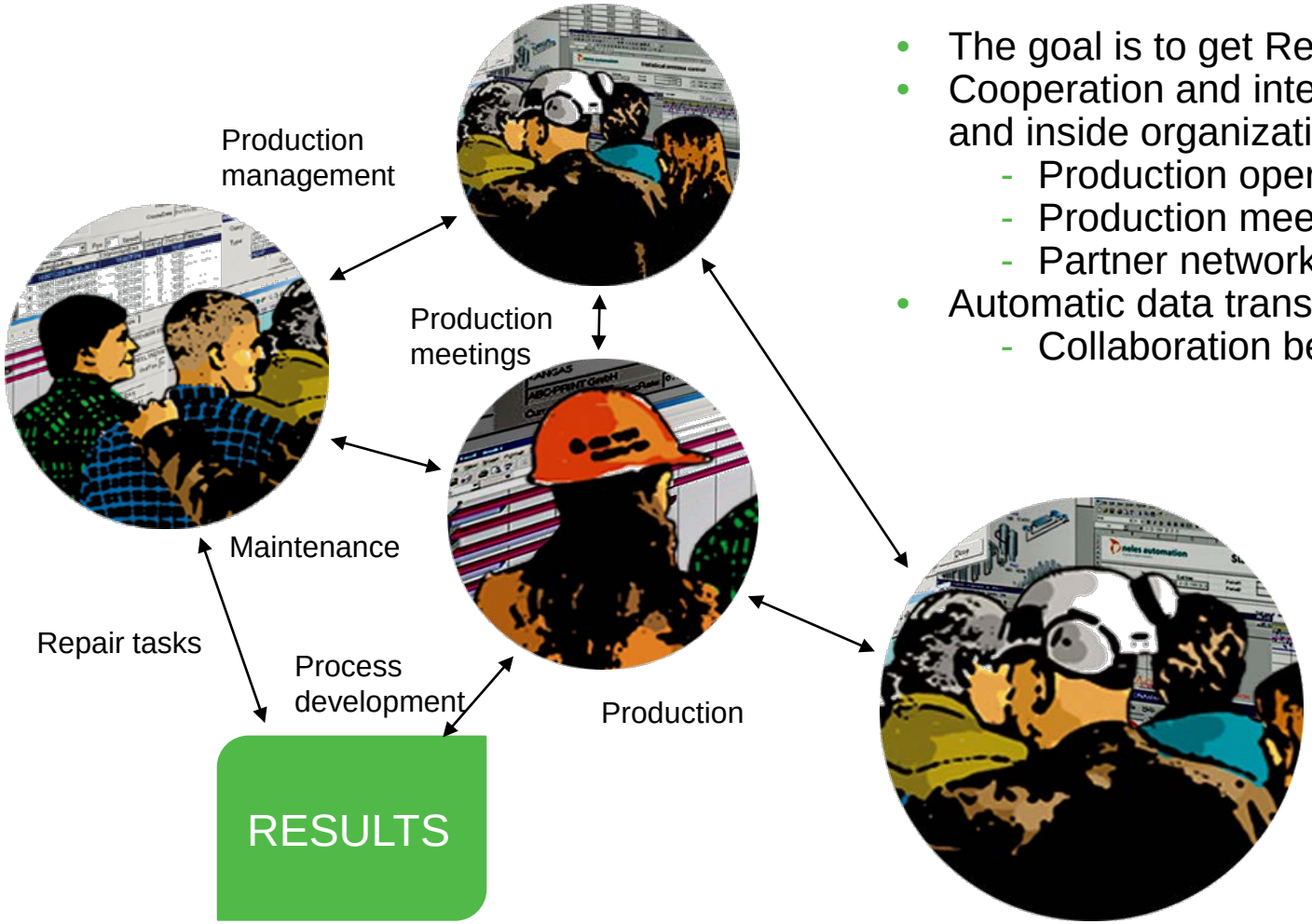
Valmet DNA

Upgradeability with innovative evolution



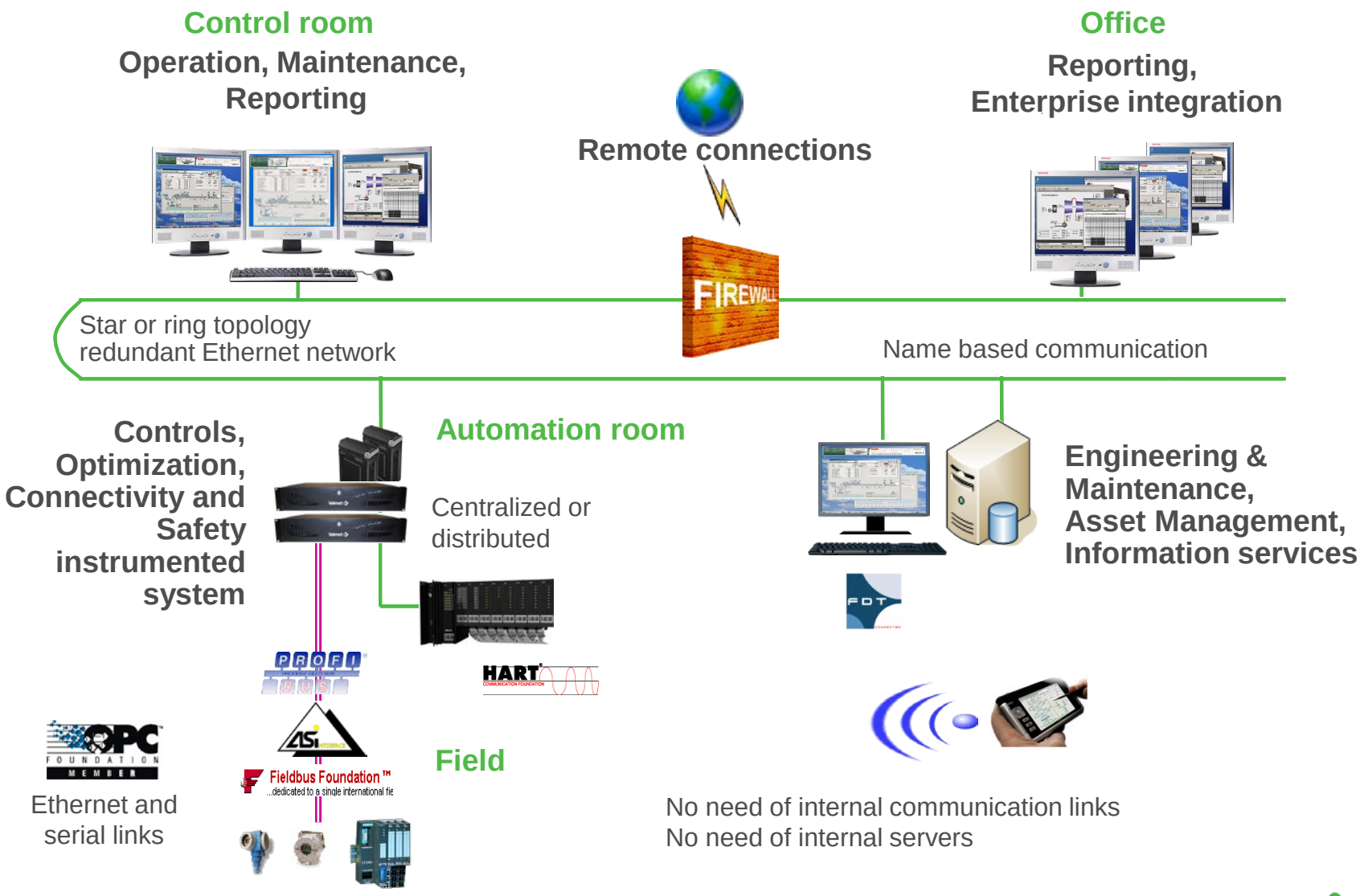
- Application compatibility since 1988
- Connectability
- Upgradeability
- Openness
- Same platform for all applications
- User friendly
- Flexible
- Reliable
- Long experience of developing control systems

The production organization is a community



- The goal is to get Results
- Cooperation and interaction between and inside organizations
  - Production operation teams
  - Production meetings
  - Partner network
- Automatic data transfer
  - Collaboration between systems

Valmet DNA architecture



Powerful Architecture

One platform
- for all type of controls and user requirements

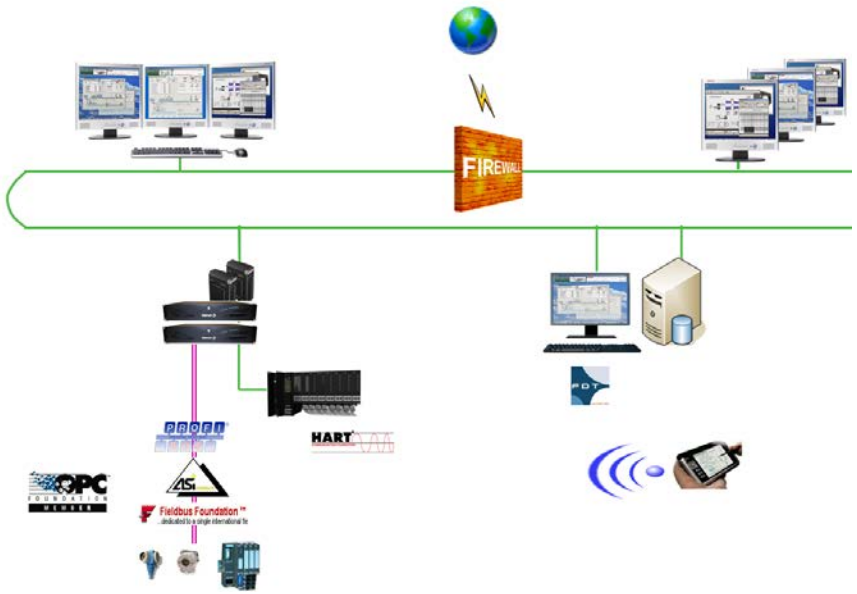
High availability
- due to industrial components
- security plus redundancy on all levels

Easy maintenance
- extensive diagnostics and
- straightforward spare part concept

True scalability
- from smallest to largest solutions
- one set of modular components

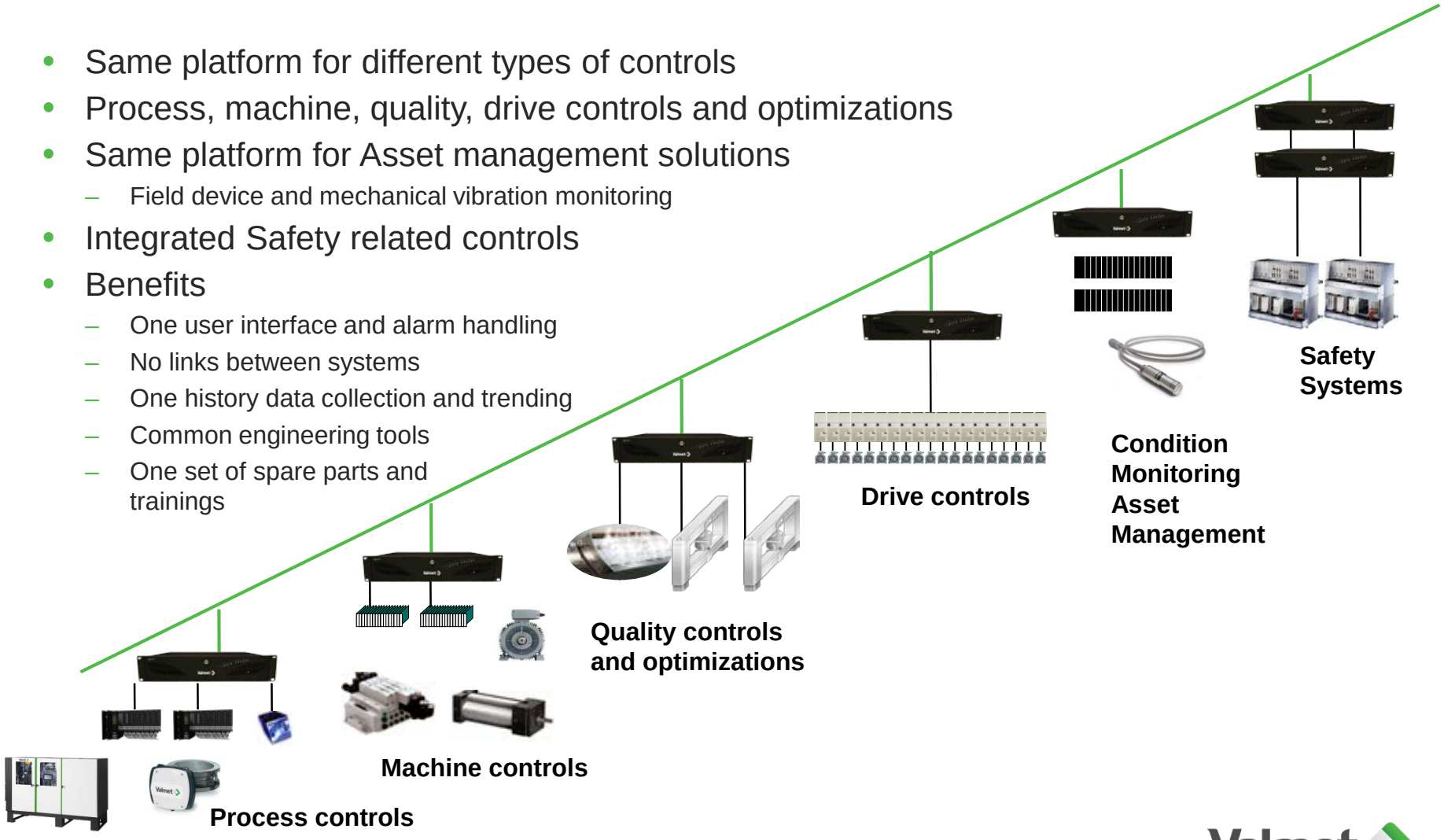
Open standard communication
- system and business integration plus field buses

Efficient engineering and maintenance
- through uniform engineering tools and re-use of applications



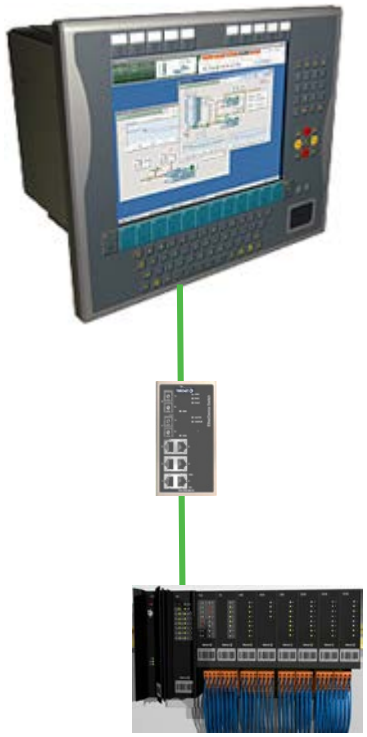
One Platform for All Needs

- Same platform for different types of controls
- Process, machine, quality, drive controls and optimizations
- Same platform for Asset management solutions
  - Field device and mechanical vibration monitoring
- Integrated Safety related controls
- Benefits
  - One user interface and alarm handling
  - No links between systems
  - One history data collection and trending
  - Common engineering tools
  - One set of spare parts and trainings



Scalable Valmet DNA – From Tiny Embedded
Powerful Architecture

Tiny embedded application
- 10 - 250 IO's
- typically installed to field or embedded to machines

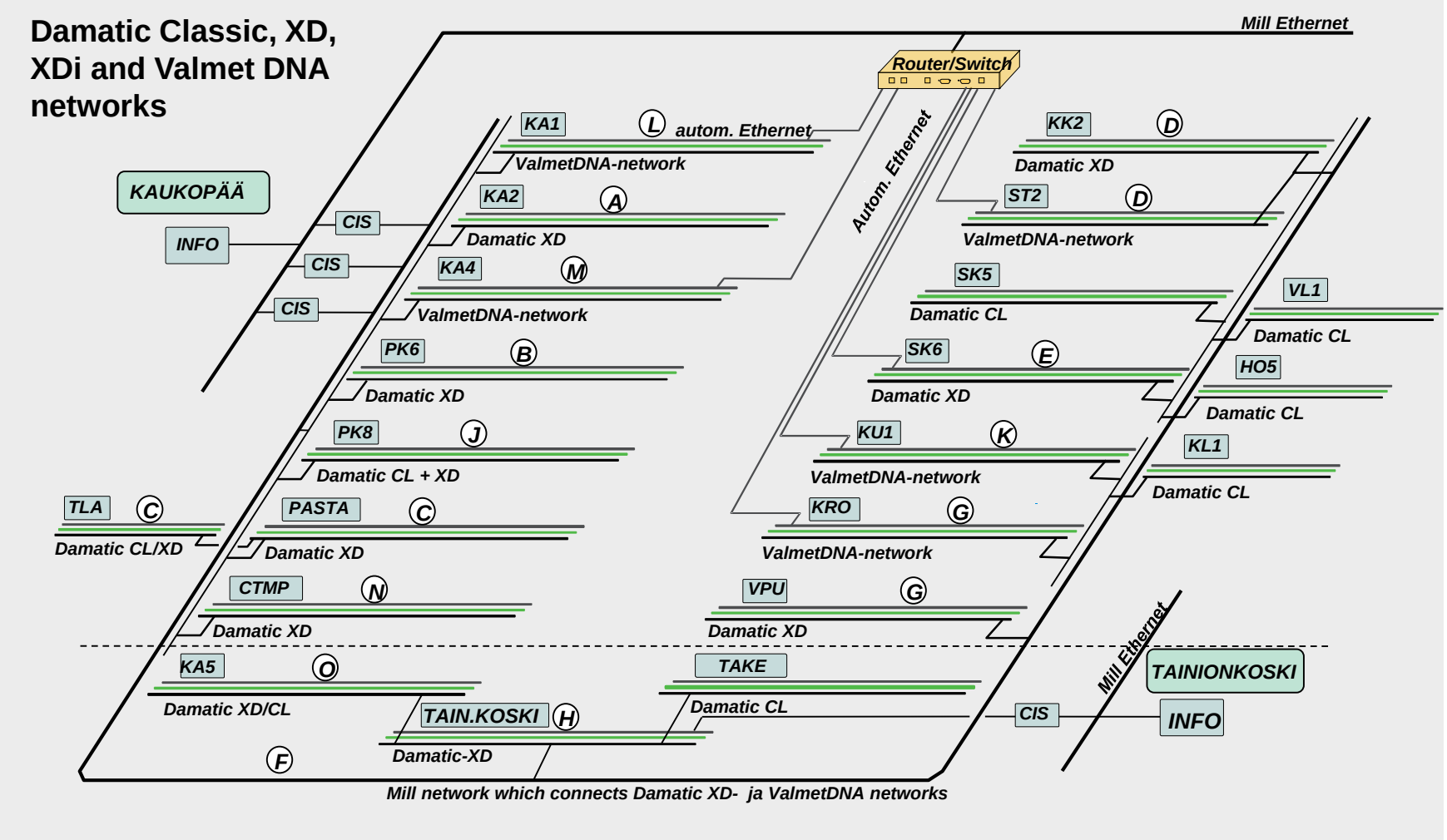


Operator Interface
- Valmet DNA Operate
- Alarm processor

ACN SR1 and IO
- ACN SR1
- ACN IO
- Backup functionality

...To Large Network

Powerful Architecture



User Interaction

Intuitive Tools for Users
and Communities

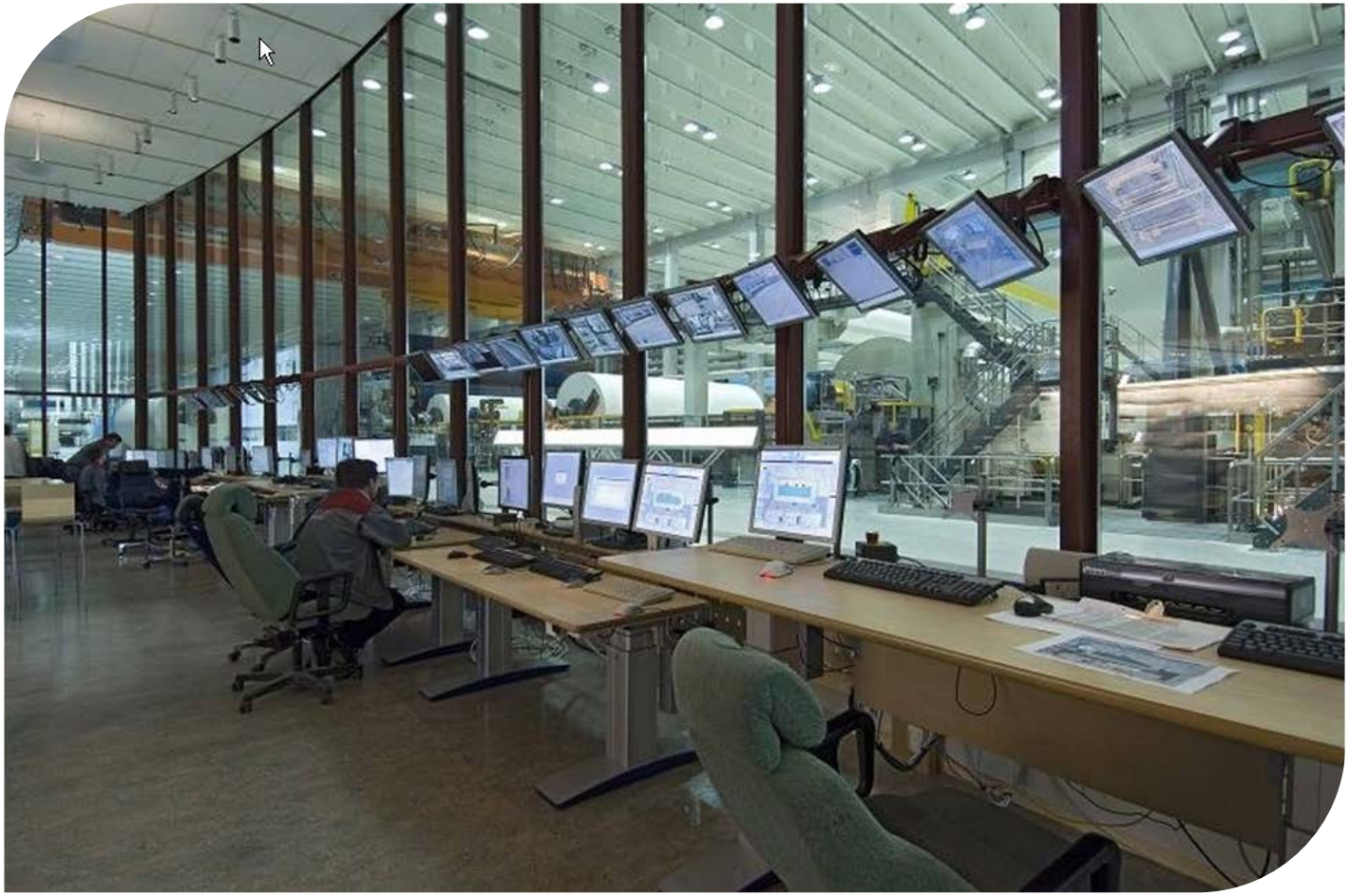
User Interaction Activity

Intuitive role based user interfaces

- Operation tools
  - Intuitive and straightforward
  - Tools analysis and problem solving
  - Adapted to tasks and roles
- Reporting and Analysis tools
  - Flexibility in content formats, distribution and visualization
  - Native element in operation and community tools
- Community tools
  - Collaboration of teams and systems
- Scalable environment from field to office

Stora Enso, Kvarnsveden, Sweden

Valmet DNA control room



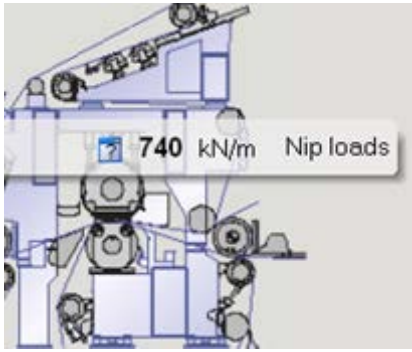
Valmet DNA Operate – Intuitive and Straightforward

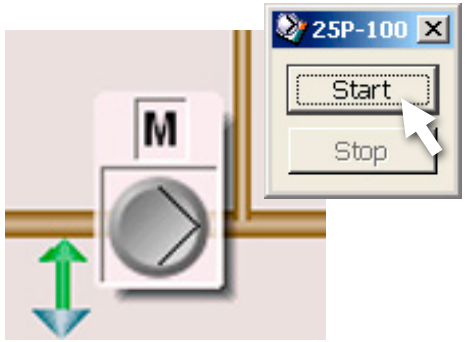
Operation Tools

- Functions developed for production professionals
- Graphical navigation
- Relevant information brought to the foreground
- Select object to get related information
- Point and click, drag and drop principle

High usability comes from

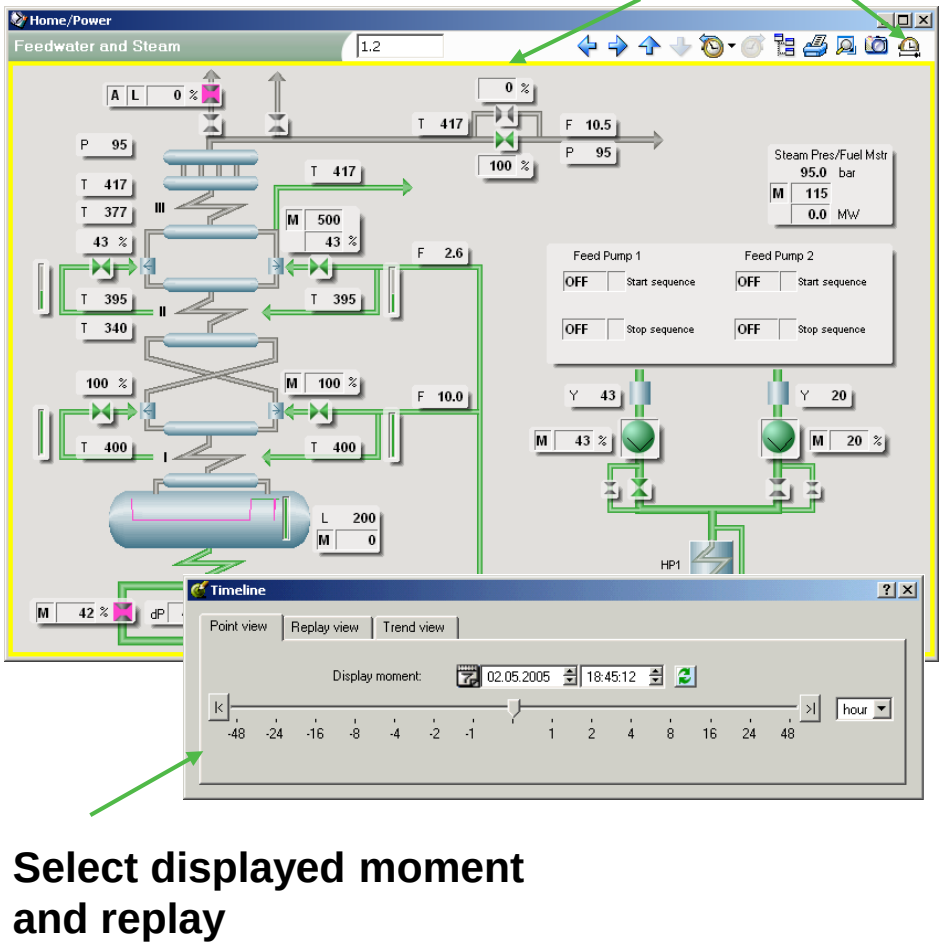
- Extensive research and experience in process control
- Application of systematic usability methods like contextual inquiry and usability tests
- Hundreds of studies and thousands of deliveries through 20 years





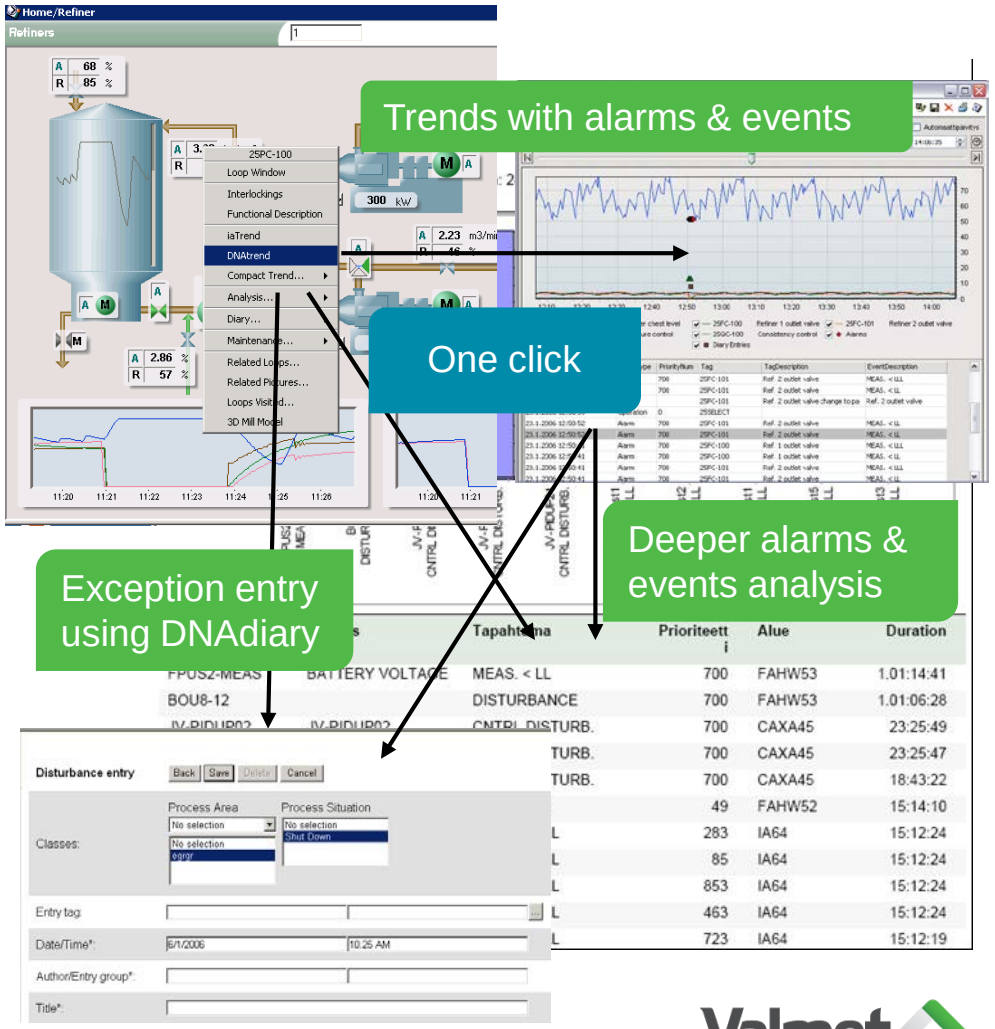
Valmet DNA Operate – Efficient Problem Solving
Operation Tools

- Efficient alarm analysis with 1 ms Sequence of Events (SOE)
- Replay history from any picture, “time machine”
- Drag and drop trend analysis
- Dynamic function and interlocking descriptions for machine and process
- Integrated diary entries for trends and loops



Integration Builds Awareness of The Situation
Reporting and Analysis tools

- Valmet DNA Report integrates events, operations, log book entries and process data in one trend or report
- Integrated with Valmet DNA Operate
  - Fast analysis by one click
  - Predefined parameters automatically
  - Further analysis online
    - Alarm analysis from trend – Valmet DNA Report Alarms and Events Analyzing
    - Search similar situations from logbook - Valmet DNA Report Diary

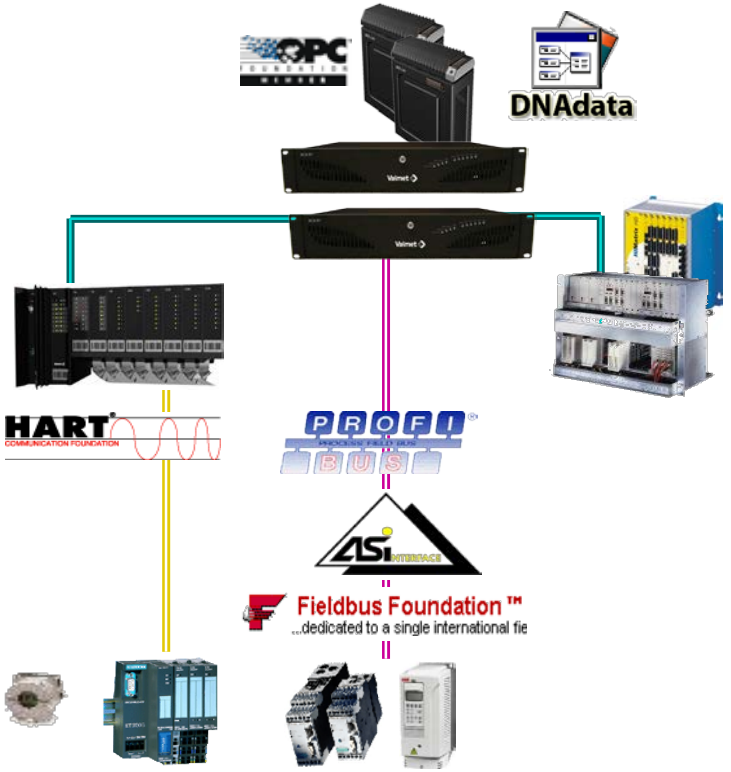


Versatile High Availability Solutions for Automated Processes

Versatile High Availability Solutions

Automated Process Activity

- Efficient ACN controllers and I/O as well as Profibus & FF & AS-i buses
- Advanced platform for all control needs
  - process, machine, drives and quality controls as well as optimization
  - basic controls, fast logic and advanced controls
- Integrated Safety Instrumented System
- Consistent information services
  - Uniform solution for data storage, calculation and enterprise application integration
- Migration paths and connectivity with standard links to third party systems
  - Field terminal assemblies, OPC, Ethernet and serial links...



Powerful Controllers with Built-In Reliability

Reliable Controllers with Flexible Field Options

A complete controller family for process control applications and external interfaces

- ACN RT large expandable controller
  - all field buses supported
  - centralized installations
- ACN CS compact controller
  - all field buses supported
  - field and centralized installations
- ACN MR compact controller
  - all field buses supported
  - field and centralized installations
- ACN SR1 small rail mounted controller
  - with ACN I/O
  - for embedded field installations

ACN RT

ACN CS

ACN MR

ACN SR1

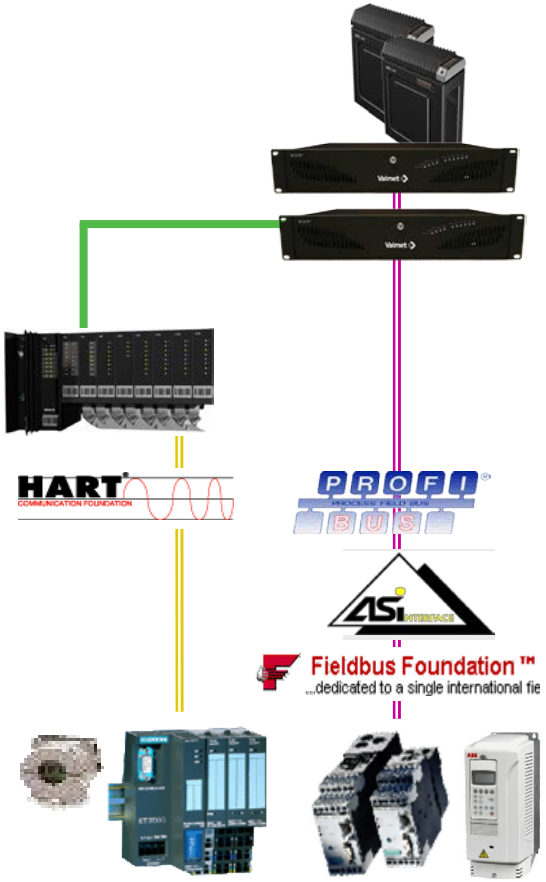
Freedom to Choose Preferred Field Solution
Reliable Controllers with Versatile Field Options

One versatile process controller supporting IO and major field buses

- Field buses
  - Profibus DP/PA, FF, AS-i
- ACN IO
  - same components in centralized and distributed architectures
  - build-in HART connectivity

Which ever you choose, you have

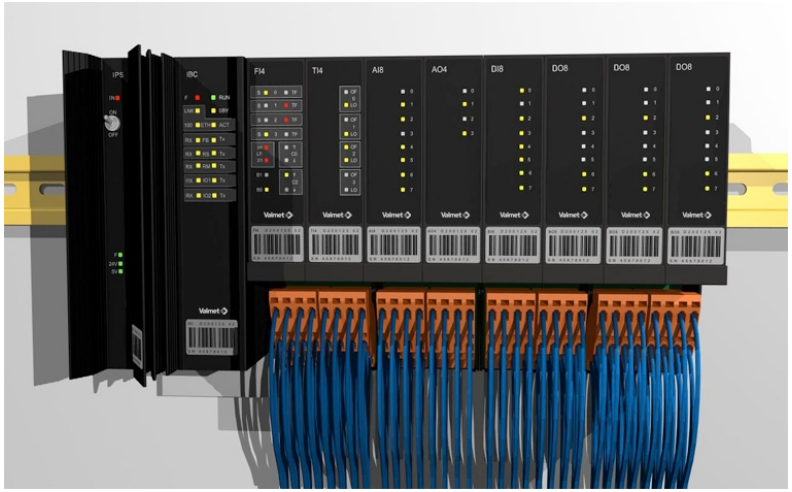
- Uniform configuration for all field interfaces
- Extensive diagnostics
- Integrated field device configuration in Valmet DNA Explorer



Compact Multipurpose I/O that is Easy to Use

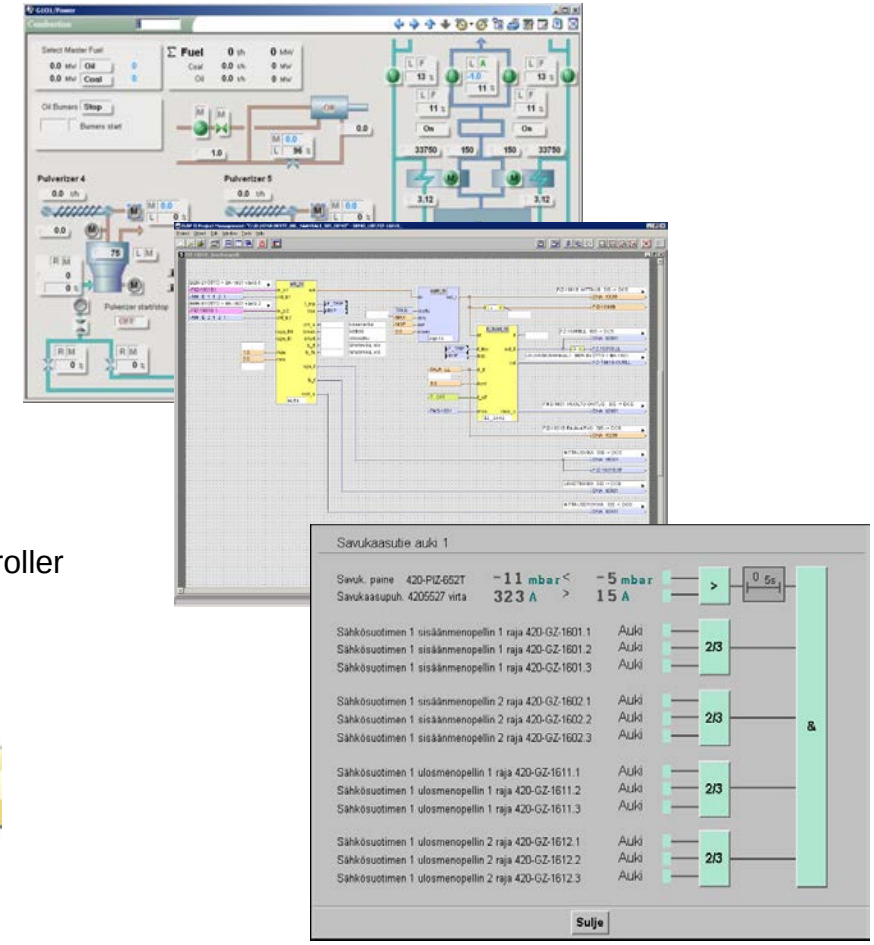
Reliable Controllers with Flexible Field Options

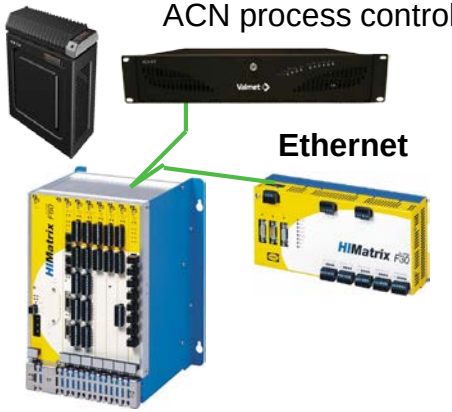
- ACN IO is modern I/O family which combines the best features of centralized and distributed I/O in one compact design
- Simplifies system design, cabinet assembly and commissioning
- Best performance and features
  - speed - fast controls down to 20 ms
  - extensive diagnostics
  - high accuracy of AI and AO
  - 1 ms sequence of events (SOE)
  - hot swapping
  - HART
  - G3 environmental specification
  - operating temperature 0...+70 °C
  - high packing density
- Connected with Ethernet to ACN controller



Valmet DNA – HIMA HIMatrix integration

- Integrated safety concept
  - Uniform user interface
  - Integrated alarm processing
  - Event recording
  - Fast Ethernet connection (100Mbit/s)
- High availability and safety
  - Safety integrity levels 1 – 3
- HIMatrix products cannot be redundant

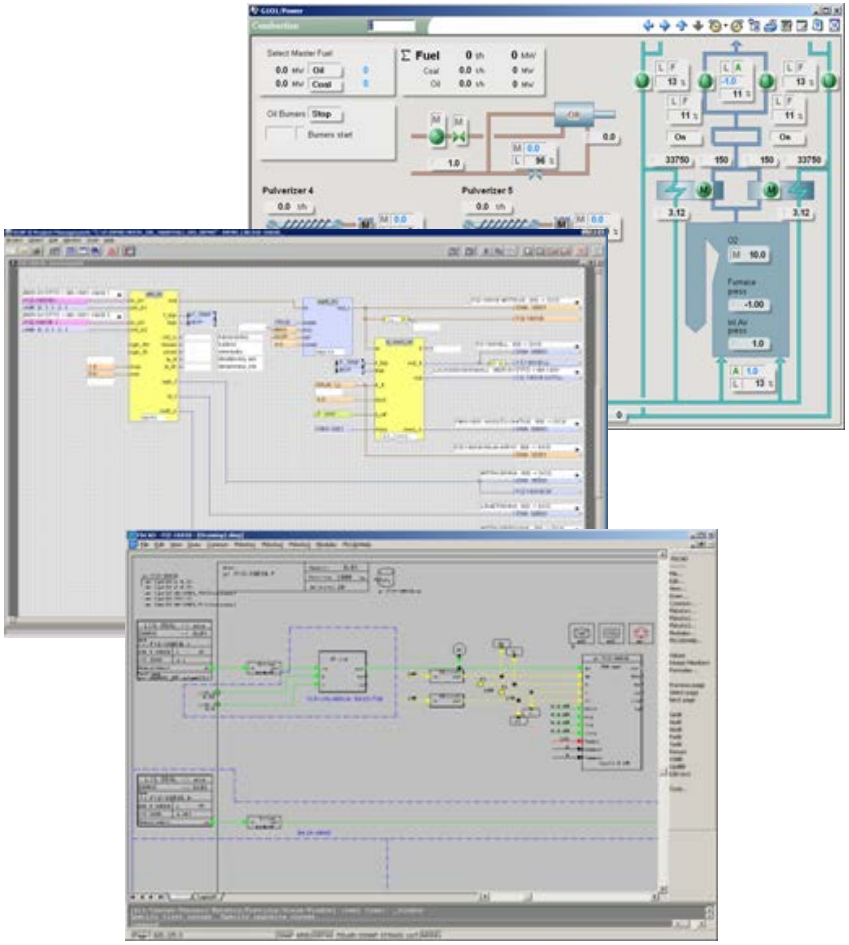




Integrated but Safely Separate

Integrated Safety Instrumented System

- Uniform user interface, alarm management and trending
- Fast Ethernet link with full redundancy
- Diagnostics covering IO’s and communication link
- Safety application made with IEC 601131-3 configuration
- Up to Safety Integrity level (SIL) 3



ACN process controller

HIMA HiQuad

Secured Life Cycle

Easy and Flexible Tools with Full Compatibility

Secured Life Cycle Activity

Engineering and maintenance tools
- Easy to use
- Powerful functions

Field asset management
- User friendly
- Integral part of operation and maintenance

Process Condition Monitoring
- Combining information from field, control and process level creates more value

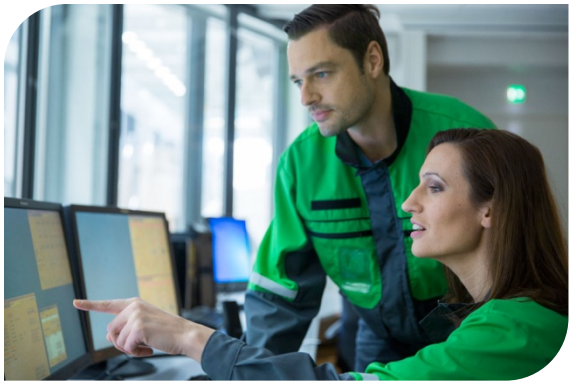
Secure Valmet DNA
- Industrial grade security

Upgradeability and compatibility
- Valmet DNA grows according to your needs

Extensive set of engineering features

Engineering and Maintenance Tools

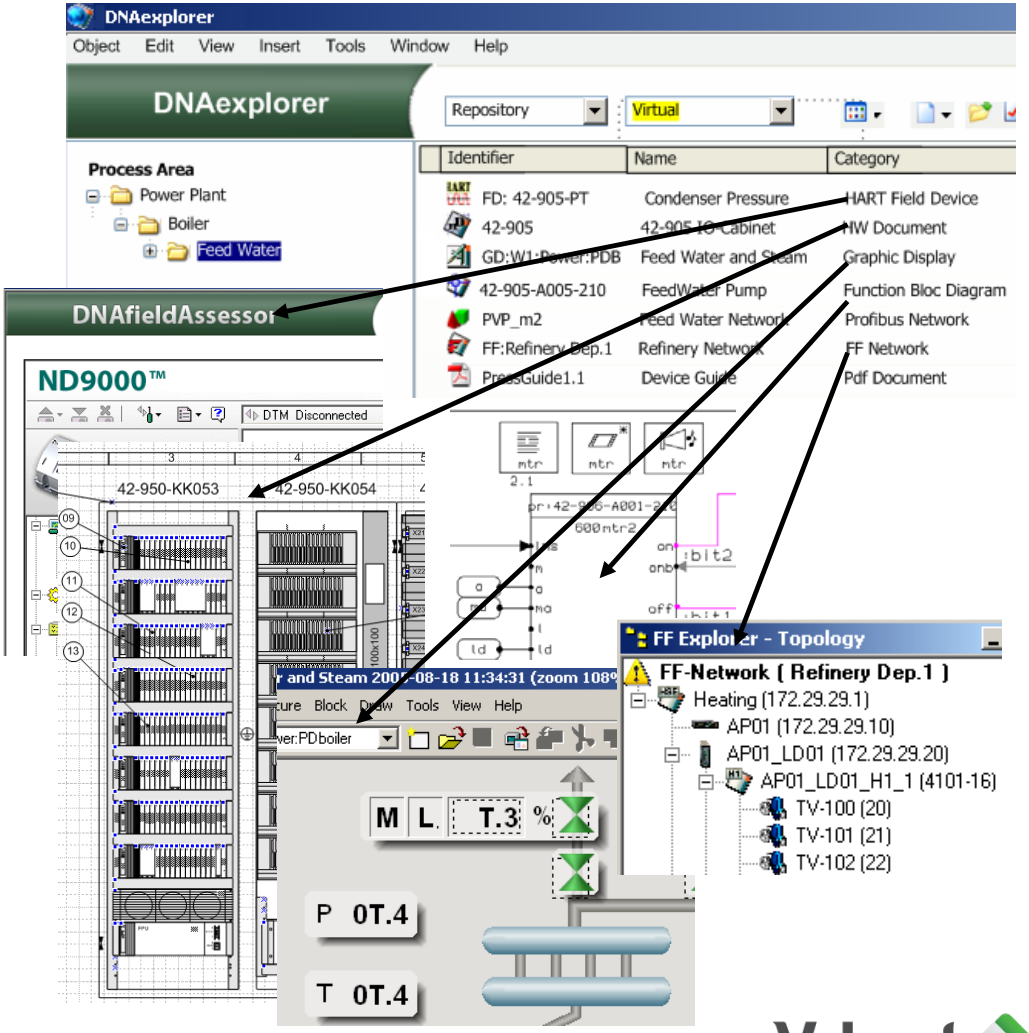
- Scalable multiuser environment for concurrent engineering
- DNA Explorer – one configuration and maintenance tool for control applications, field bus, field devices and network document management
- Uniform configuration for all field interfaces
- WYSIWYG Graphical User Interface design tool
- Integrated testing environment
- State of the art network design, hw-engineering and documentation tool DNA Network Designer
- Point and click operation for all tasks: edit, online, check etc. Efficient bulk data handling



Valmet DNA Explorer for Plant Management

Engineering and Maintenance Tools

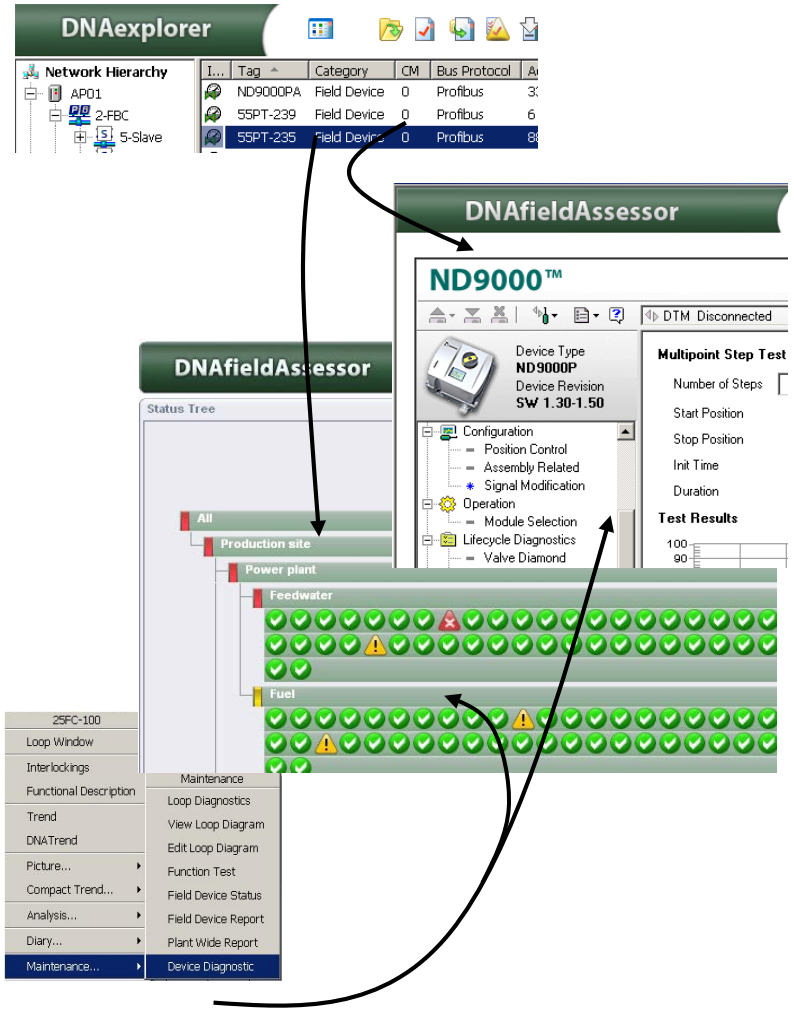
- One powerful tool for engineering and maintenance of
  - field devices
  - HW and network documents
  - user interface
  - control application
  - field bus
- Explore through the network
- Intuitive to use



Valmet DNA diagnostic

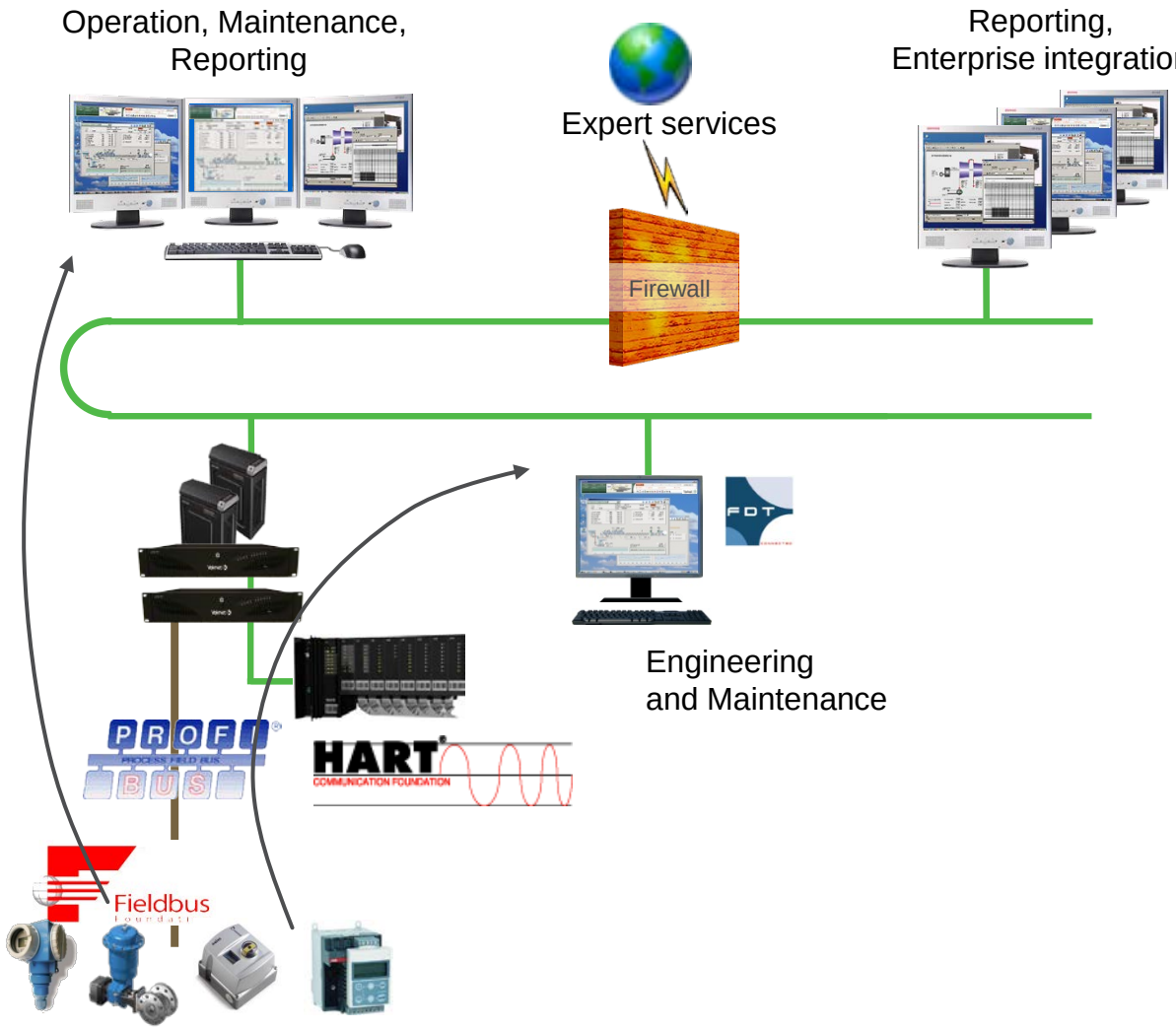
Field devices

- Valmet DNA Field Device Manager brings field devices for process operators and engineers
  - device condition monitoring
  - device report
  - asset management report
  - device configuration
- Proactive field asset management
  - helps to see device performance
  - helps to plan maintenance work



Communication through network

Valmet DNA Field Device Manager

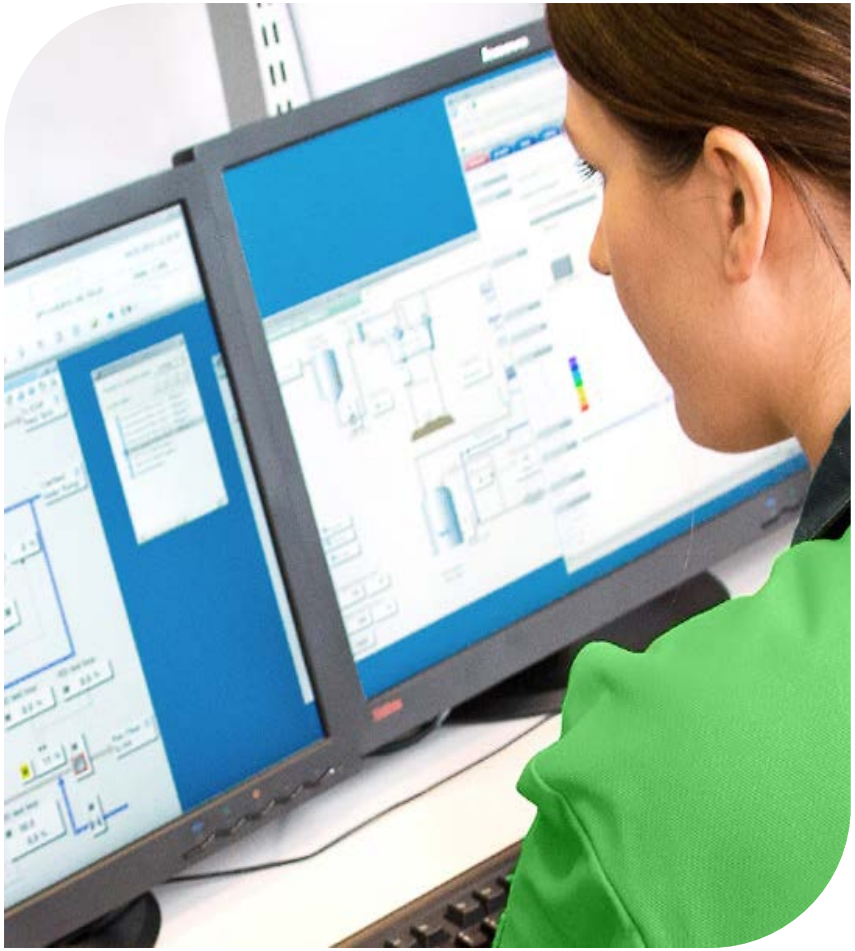


- Transparent communication through Valmet DNA – no multiplexers
- Information available in operator interface and engineering tools
- Configuration and diagnostic information
- HART, Profibus and Foundation Fieldbus routing

Secure the Production Enviroment

Valmet DNA Security

- Security in critical real time production environment
  - High standards and quality
- Layered Security - meet it in all levels
  - Configuration, hardening and patching for all active components
  - Antivirus software, firewalls
  - Secure network architecture, Security frontier
  - Password and user identification
  - Secure connections between customer and Valmet
- Life cycle support: security update, training, communication, audits and services



Automation projects

Results start from project delivery

- The full scope of project services:
  - Project management
  - From pre-engineering and basic engineering to application engineering
  - Extensive Factory Acceptance Testing
  - Commissioning and turnkey projects
- Professional project execution - people and experience
  - In-depth process knowledge
  - Thousands of automation projects over the past 30 years
  - Any project size - throughout every project stage

Services

More results from high availability and performance

- The full scope of customer services:
  - Customer Advantage Agreement for corrective, preventive and predictive maintenance - from help desk to 100% availability agreement
  - Automation engineering, extension projects and upgrades
  - Customer training
  - Spare parts
- Improved results
  - Process performance
  - Process availability
  - Maintenance cost management
  - Asset management

User Centric Environment
Valmet DNA

UPM Shotton PM2 Automation Upgrade

“With the old machine controls we couldn’t see what was going on. We had no visual information”

David Green, Technical Manager

“We can see everything on the paper machine and how it is behaving. It has opened our eyes. Clearly **the biggest benefit is in our ability to solve problems**.”

Pasi Häyrynen, PM2 Production Line Manager


Valmet
FORWARD