

OPC DAY FINLAND 2017

11.10.2017 #OPCUA #OPCDAYFINLAND #AUTOMATION #OPCDAY



FINNISH SOCIETY OF AUTOMATION
SUOMEN AUTOMAATIOSEURA RY

SPONSORS

BECKHOFF



NESTEJACOBS



**TO ERR IS HUMAN,
TO IMPROVE
IS NAPCON.**

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SPEAKER

Andreas Frejborg has 20 years of experience in real time information. He has deep knowledge in design, configuration, testing and commissioning real time information system. Furthermore Andreas has acted as Project Manger and Project Lead in several real time information related projects ranging from study phase to execution. For the past years Andreas has acted as advisor to several clients in their efforts to push digitalization of their process to the next level.



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NESTE JACOBS

Personnel
1300

No. 1
Engineering
Company in
Finland on
Industry Sector*

No. 2
Engineering
Company in
Finland
measured on
Exports*

Customers
100% ready to
use us again.

* Source: SKOL Statistics and Customer survey 2015

CUSTOMER SEGMENTS



Biopharma



Food Industry



Biochemicals



Biorefining



Petroleum Refining



Petrochemicals



Gas

Natural Gas – Biogas - LNG



Industrial Infrastructure

OFFICES



OUR FOCUS AREAS



BUSINESS
OPTIMIZATION



PRODUCTION
OPTIMIZATION



BIG DATA



QUALITY
OPTIMIZATION



ENERGY
EFFICIENCY



ENVIRONMENT



SAFETY



LOGISTICS

OUR PRODUCTS



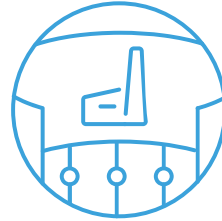
UNDERSTAND

NAPCON Understand solutions will turn the data provided by your plant into relevant information that help optimize your company's production.



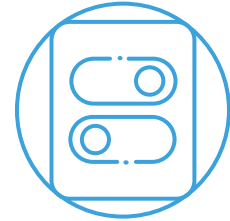
IMPROVE

NAPCON Improve solutions will bring out the maximum potential of your operations and help you ensure that your investments meet your strategic goals.



TRAIN

NAPCON Train solutions will bring the real life plant into the virtual world, making training operators and testing the limits of your plant safe and exciting.



DECIDE

NAPCON Decision support enables you to make the right decisions, even in complex conditions.

NAPCON INFORMER KNOWS IT ALL.



NAPCON INFORMER KEY FEATURES

AUTOMATION

Built-in information models that allow true system-to-system communication improving performance and scalability without requiring any human interface.

SAFETY

OPC UA technology that provides user authentication by certificates and enables cyber secure communication between server and client.

EFFICIENCY

Time series database (TSDB) enables efficient data handling that truly matches your needs.

STANDARDIZED

Standardized interface through OPC UA real-time database build on top of time series database with premium performance.



UNDERSTAND



NAPCON ANALYTICS IS
THE LINK BETWEEN DATA
AND REAL KNOWLEDGE.

NAPCON ANALYTICS BENEFITS

INTELLIGENCE

NAPCON Analytics makes your existing operational and business intelligence systems even smarter.

EXPERTISE

We offer in-depth knowledge of industry specific calculations including calculation packages designed for process industry.

UNDERSTANDABILITY

NAPCON Analytics provides one coherent view of information.

RELIABILITY

Our solid experience of calculating models is fully at your service.

CUSTOMIZATION

We provide customizable, easily tailored solutions.



UNDERSTAND

**PULLING THE INFORMATION OUT OF
YOUR PROCESS INSTRUMENTS –**

UTILIZE AVAILABLE OPC UA INFORMATION INTEGRATION



A DIGITAL PLANT – WHAT WOULD BE THE ULTIMATE GOAL?

Key features of a modern digitalized plant

- Current state of plant is **transparent** and **visible** to every stakeholder
- Information gathered is transformed to **wisdom**
- Operations are **Cyber Secure** in every aspect
- Production is **Optimized** on every level of the Enterprise and Plant

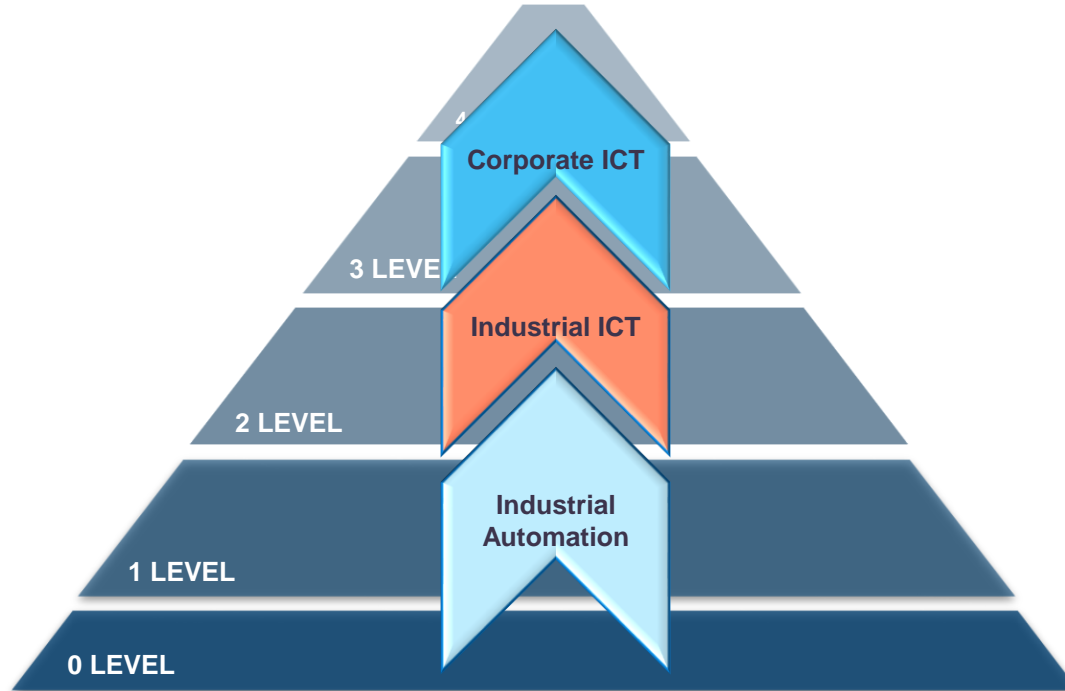
LETS TALK ABOUT INDUSTRIAL INTERNET OF THINGS INSTEAD



HOW TO COMMUNICATE – THERE IS A PLETHORA OF WAYS TO DO IT

SIGFOX
WIFI/802.11
BLUETOOTH
5G
ZIGBEE
OPC UA
GSM
PROFIBUS
LORA
TSN
MULTIFIRE
4G

THE INFORMATION PYRAMID



4 LEVEL

ESTABLISH THE PLANT SCHEDULE -
PRODUCTION, MATERIAL USE,
DELIVERY AND SHIPPING



MTH
WK, D



ERP
PLM, CRM,
HRM

3 LEVEL

WORKFLOW / RECIPE CONTROL,
MAINTAINING RECORDS, OPTIMIZATION



SHIFT
H, MIN, S



MES
LIMS, WMS,
CMMS

2 LEVEL

OPERATION, MONITORING,
SUPERVISORY CONTROL AND
AUTOMATED CONTROL



ms



SCADA
HMI, DCS, PLC

1 LEVEL

SENSING PRODUCTION PROCESS,
MANIPULATING SAFETY



ms

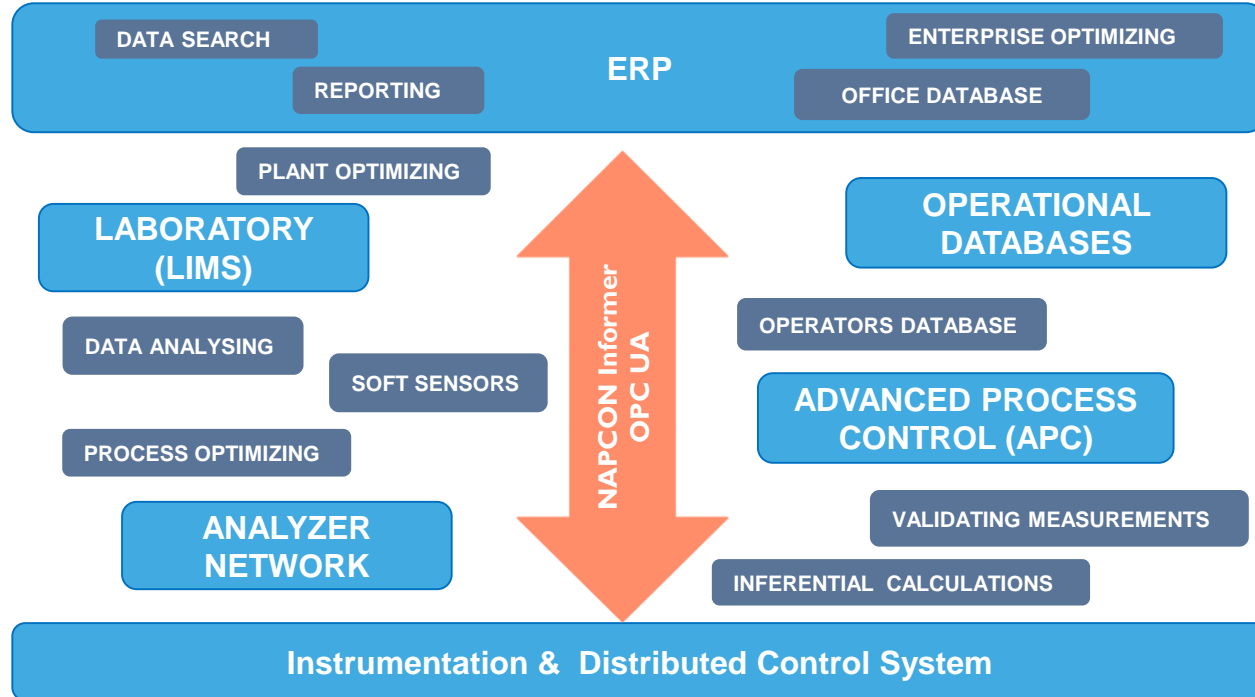


SIS, I/O

0 LEVEL

PHYSICAL PRODUCTION PROCESS

COMMON PROCESS INDUSTRY INFORMATION HIGHWAY



ANALYZER INTEGRATION IN PROCESS INDUSTRY

CASE EXAMPLE



HOW DO WE CONNECT TO A PROCESS ANALYZER?

Two ways to do it

The old fashion way with mA signal, by picking only those few needed for plant operations.

OR

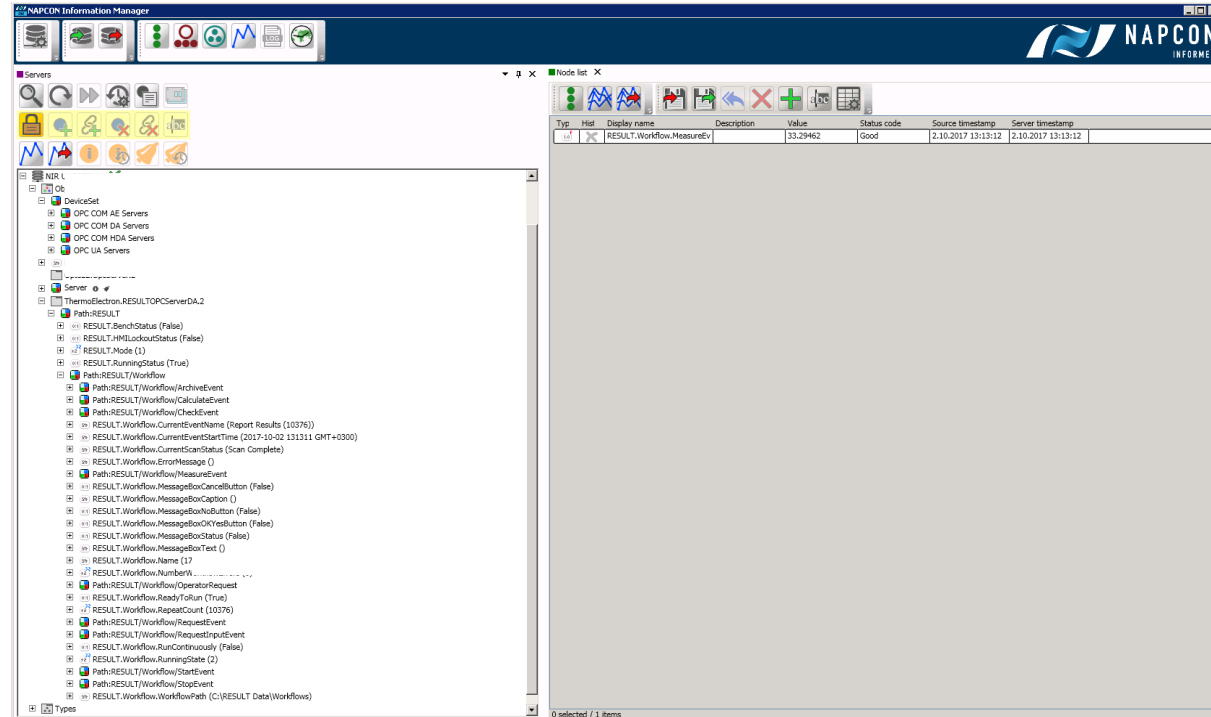
Select an analyzer vendor that do OPC UA (with or without ADI) and one get all in no time!

SOMETHING LIKE THIS.....



SO ONLY A FEW CLICKS AWAY

1. Browse up the analyzer
2. And start taking use of the information



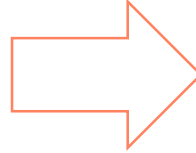
WHAT DID WE GET...?

With a click

- 37 components
- Each containing 4 information points

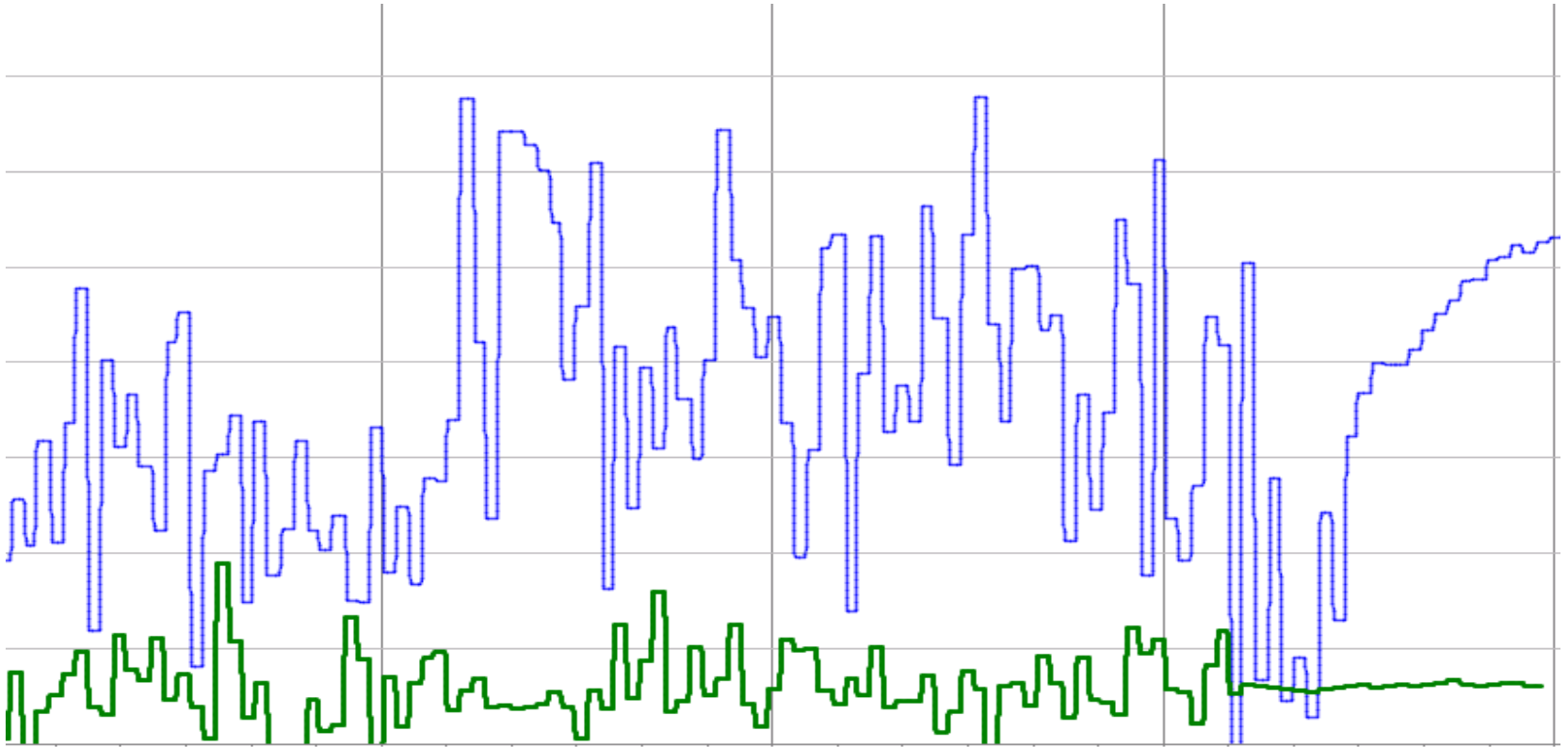
Which makes

- **148 information points!!!**

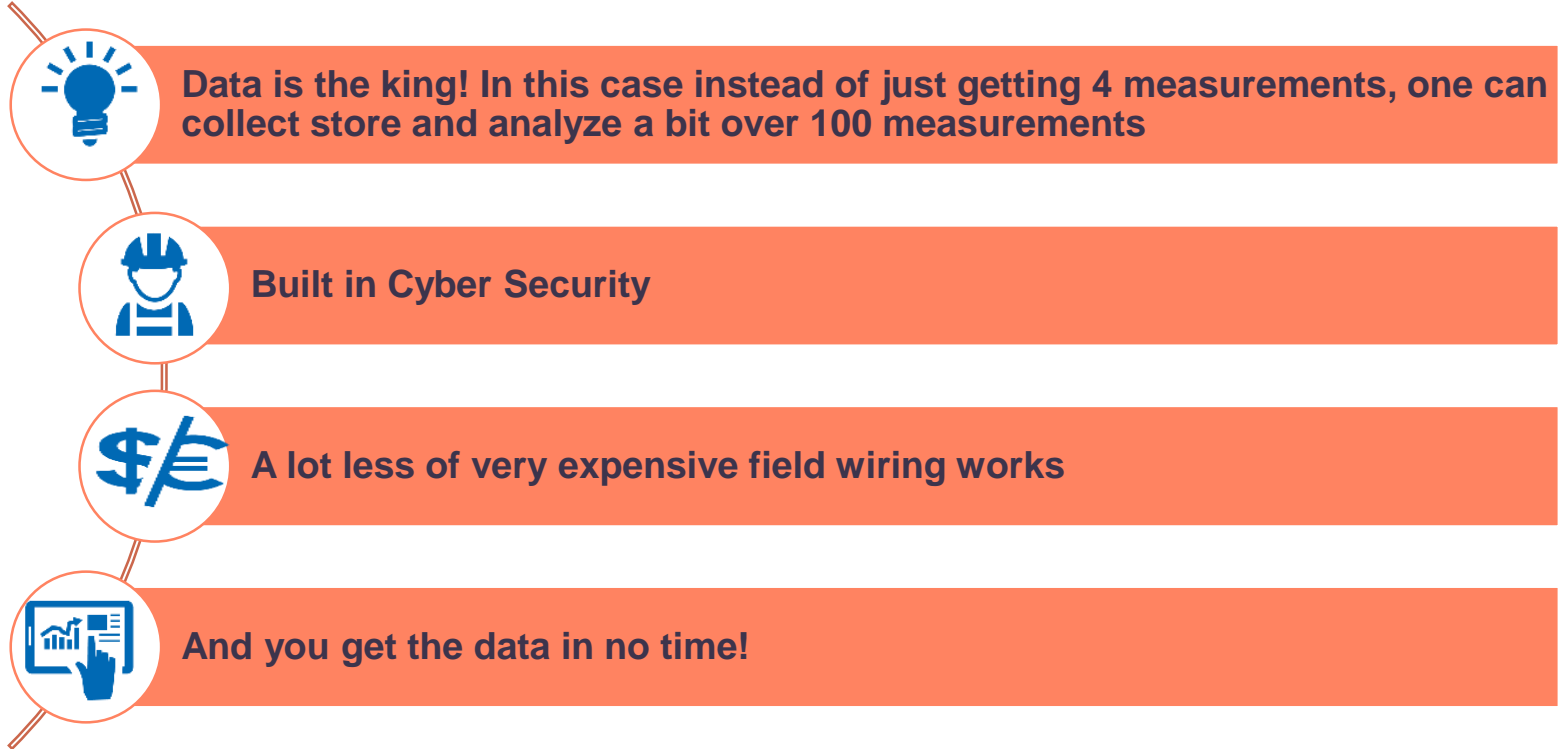


```
Path:RESULT/Workflow/MeasureEvent
Path:RESULT/Workflow/MeasureEvent/Component001
Path:RESULT/Workflow/MeasureEvent/Component002
  RESULT.Workflow.MeasureEvent.Component002.MeasureEventName (
  RESULT.Workflow.MeasureEvent.Component002.Name
  RESULT.Workflow.MeasureEvent.Component002.Time (1.130555555)
  RESULT.Workflow.MeasureEvent.Component002.Unit (
  RESULT.Workflow.MeasureEvent.Component002.Value (61.06842)
Path:RESULT/Workflow/MeasureEvent/Component003
Path:RESULT/Workflow/MeasureEvent/Component004
Path:RESULT/Workflow/MeasureEvent/Component005
Path:RESULT/Workflow/MeasureEvent/Component006
Path:RESULT/Workflow/MeasureEvent/Component007
Path:RESULT/Workflow/MeasureEvent/Component008
Path:RESULT/Workflow/MeasureEvent/Component009
Path:RESULT/Workflow/MeasureEvent/Component010
Path:RESULT/Workflow/MeasureEvent/Component011
Path:RESULT/Workflow/MeasureEvent/Component012
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Path:RESULT/Workflow/MeasureEvent/Component030
Path:RESULT/Workflow/MeasureEvent/Component031
Path:RESULT/Workflow/MeasureEvent/Component032
Path:RESULT/Workflow/MeasureEvent/Component033
Path:RESULT/Workflow/MeasureEvent/Component034
Path:RESULT/Workflow/MeasureEvent/Component035
Path:RESULT/Workflow/MeasureEvent/Component036
Path:RFS II T/Workflow/MeasureEvent/Component037
```

WHAT DOES IT LOOK LIKE?



BENEFITS



A photograph of an industrial facility, likely a water treatment plant, featuring large, horizontal, silver-colored cylindrical tanks and a complex network of pipes and metal scaffolding. The sky is clear and blue.

Thank you!

Any questions?



NAPCON
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