

# OPC DAY FINLAND 2020

4.11.2020, 1.00-4.30 PM (EET)

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# Industrial Data Management

*Empower your cloud initiatives*



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SPONSORS:



BECKHOFF



NOVOTEK



# Company & Presenter

## Novotek

- Supplier of industrial digitalization solutions that increase productivity
- Operations in 8 countries with 150 specialists
- Preferred distributor for several world leading product suppliers like GE Digital, PTC, Kepware
- 35 years of experience in data connectivity within OT



## Ulf Yngvesson

- M.Sc. Computer Science
- OT, IIoT and industrial communication architect
- 25+ years of experience



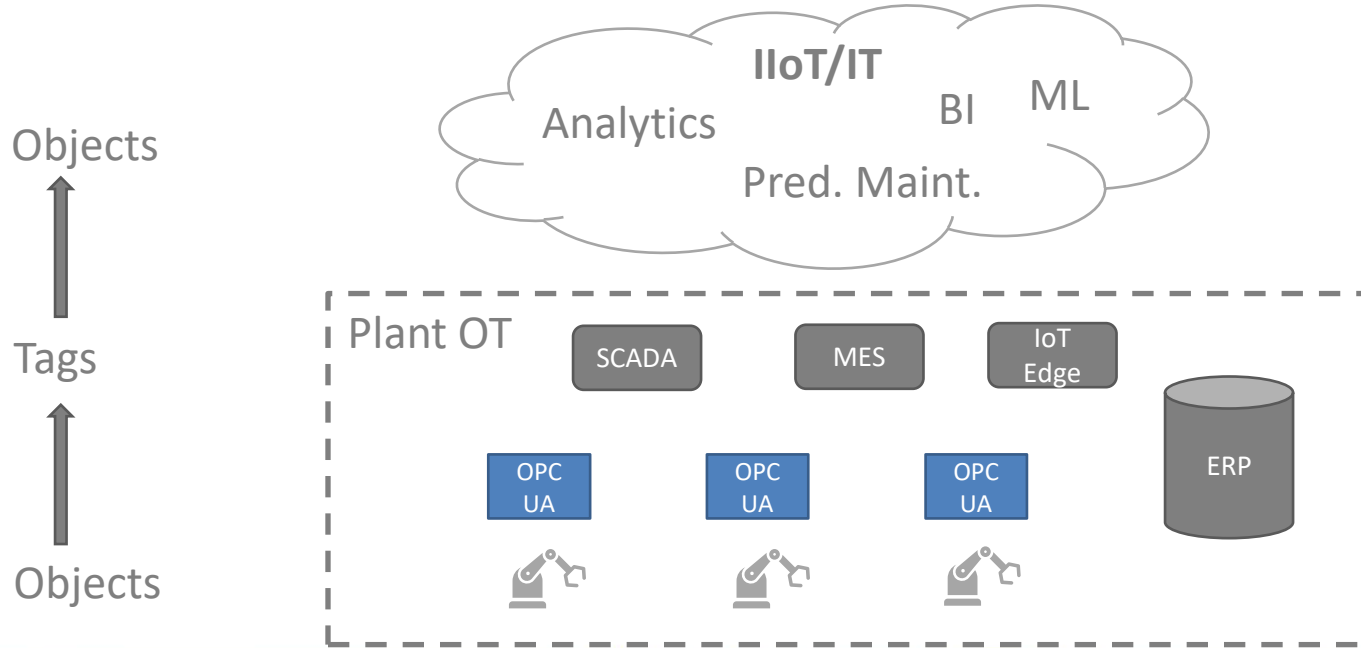
and IT

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# Introduction



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# Why model in objects?

- Automatic setup of application
- Automatic testing
- Scalability
- Manageability

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# Cloud Streaming Example

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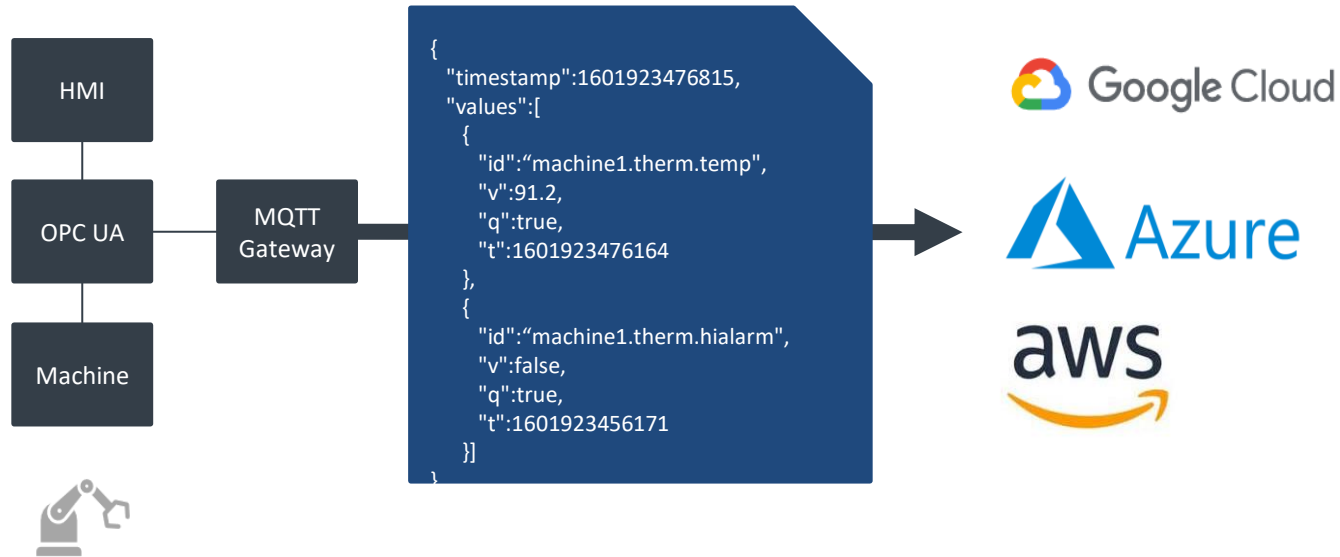
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# Cloud distribution



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# Typical problems with tag streams

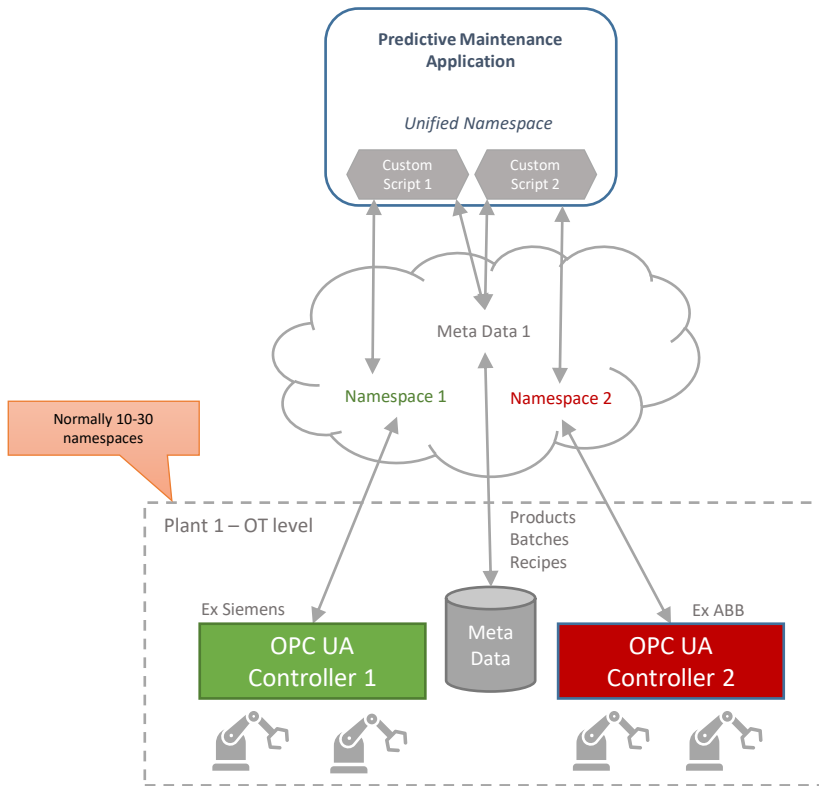
- Industrial raw data can cost a lot
- Id/Tagname often only thing to bind streams together
- Timestamp is not aligned on tags
  - Different poll time and compression/deadband
  - Analytics often need eq spaced samples
- Meta data catalogues in cloud is often scripted/programmed, eg not OT-friendly
- OT has the knowledge about the data and machines!

```
{
  "timestamp":1601923476815,
  "values":[
    {
      "id":"machine1.therm.temp",
      "v":91.2,
      "q":true,
      "t":1601923476164
    },
    {
      "id":"machine1.therm.hialarm",
      "v":false,
      "q":true,
      "t":1601923456171
    }
  ]
}
```

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## Challenges

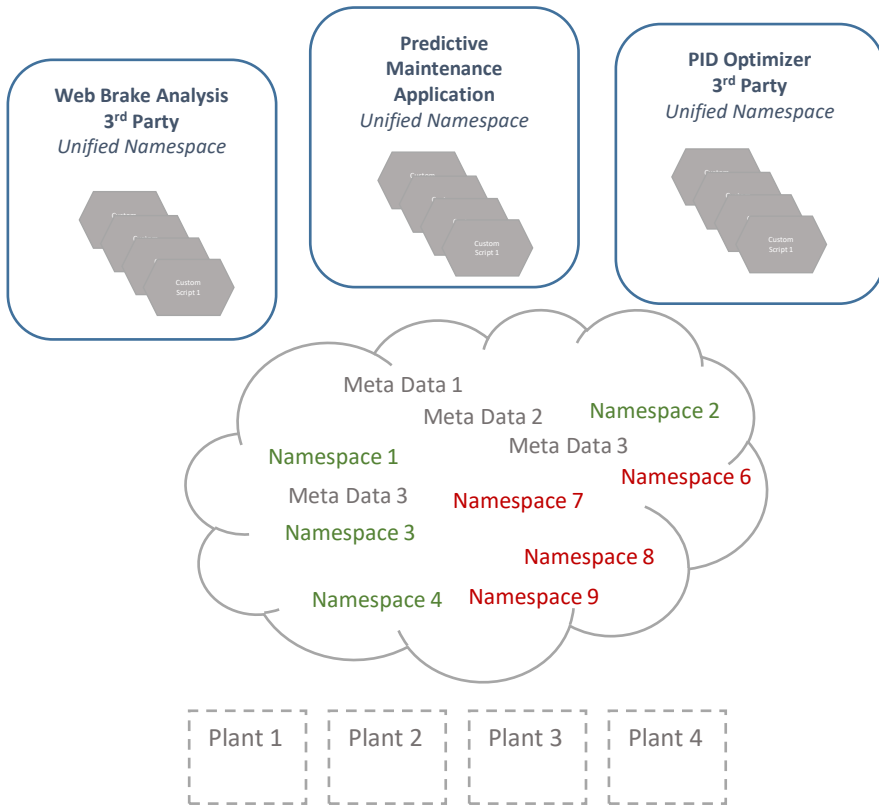
- How to scale out?
  - New plants with similar problem but different automation systems
- How do you scale up?
  - New applications

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## Scale Up and Out

- Different OT systems in each factory/department/line/machine
- All have different namespaces
- But assets are similar
  - Pumps, Robots, CNC's, Palletizers, Motors
- Raw sensor data - No normalization
- No contextualization
  - EGU range, EGU Unit, Product, shift, order, lotnumber etc

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# Typical challenges

- IIoT/IT/3<sup>rd</sup> Party do not know local OT structure
  - Costly and long lead time
- Many times similar scripts are developed
- Custom scripts hard to monitor and maintain for 24x7 operations

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# Industrial DataOps

## The (often) missing link for Industry 4.0

“DataOps (data operations) is the orchestration of people, processes, and technology to deliver trusted, business-ready data to data citizens, operations, applications and artificial intelligence (AI) fast.”

IBM via <https://www.ibm.com/analytics/dataops>

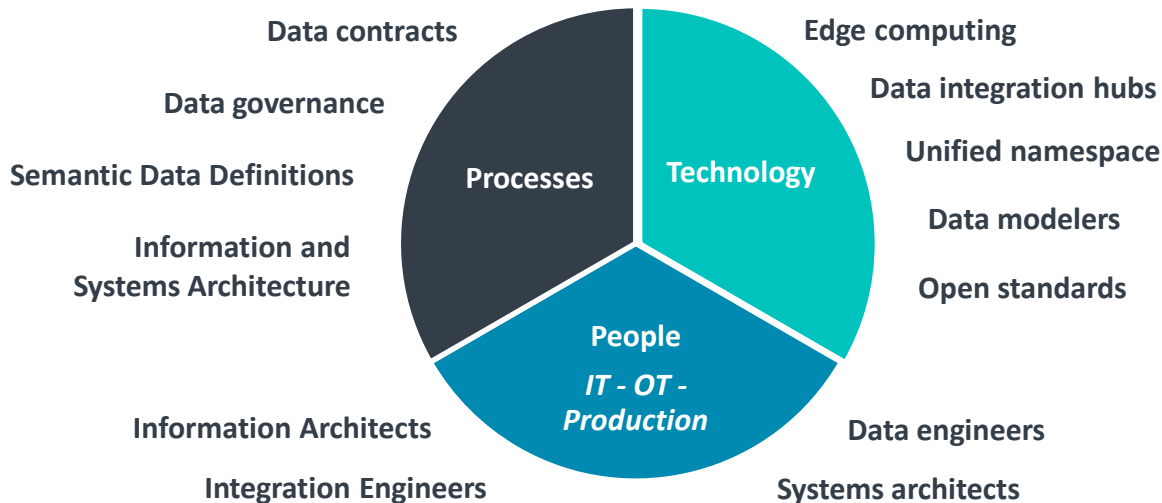
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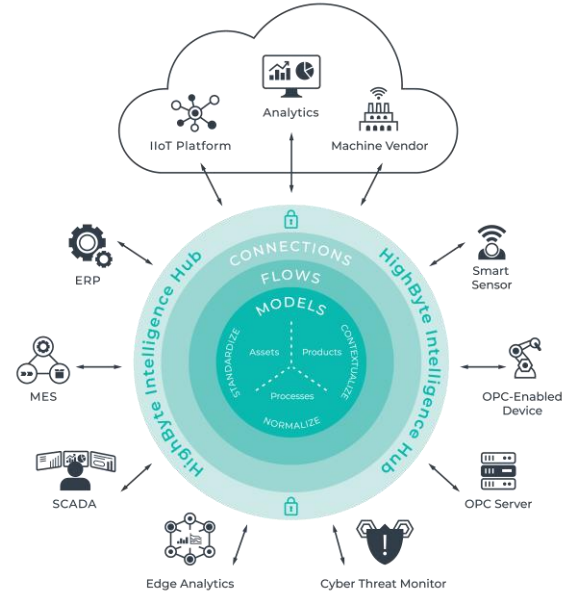
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# DataOps Solution

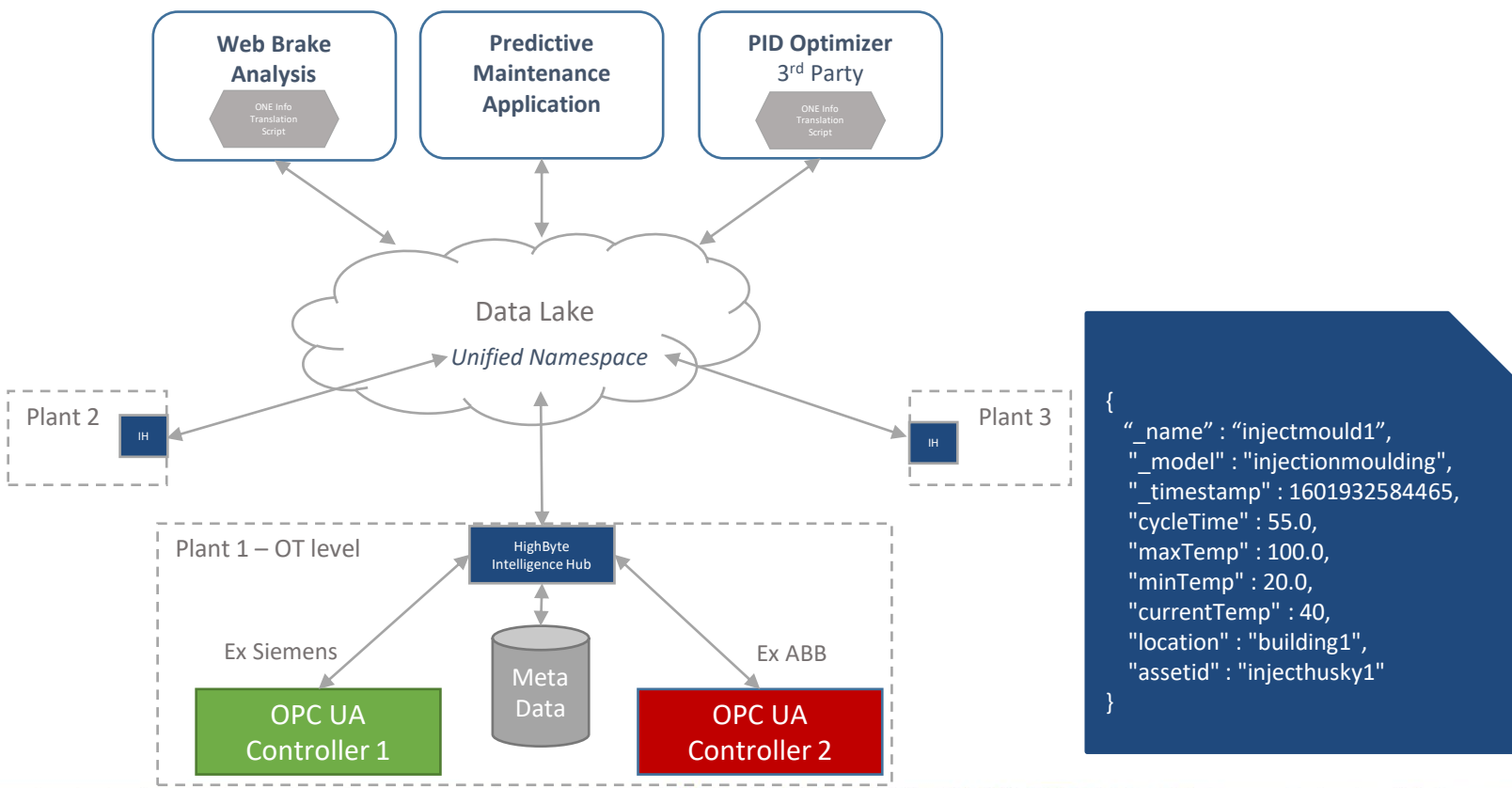
- Data modeling and management abstraction layer
  - Standardize and contextualize information models
  - Manage information flows
- Designed for OT information accessibility
  - Edge-native, on-premises
  - Light-weight
  - Web-based
  - System agnostic
  - Codeless interface
  - Flexible, sustainable, maintainable



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# Business Value

- OT Experts can more quickly and securely provide **good quality factory data**
- **OT still owns the data** (flows)
- **Faster** and more secure **usage of cloud domain solutions**
- Smart cloud solutions **auto-create application** if new asset is configured on site

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- Questions

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- Information

[www.novotek.com](http://www.novotek.com)

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Thank you!

