



Enabling Operational Intelligence for a Small Scale Bio-LNG Plant

Jerom van Roosmalen MSc



Content

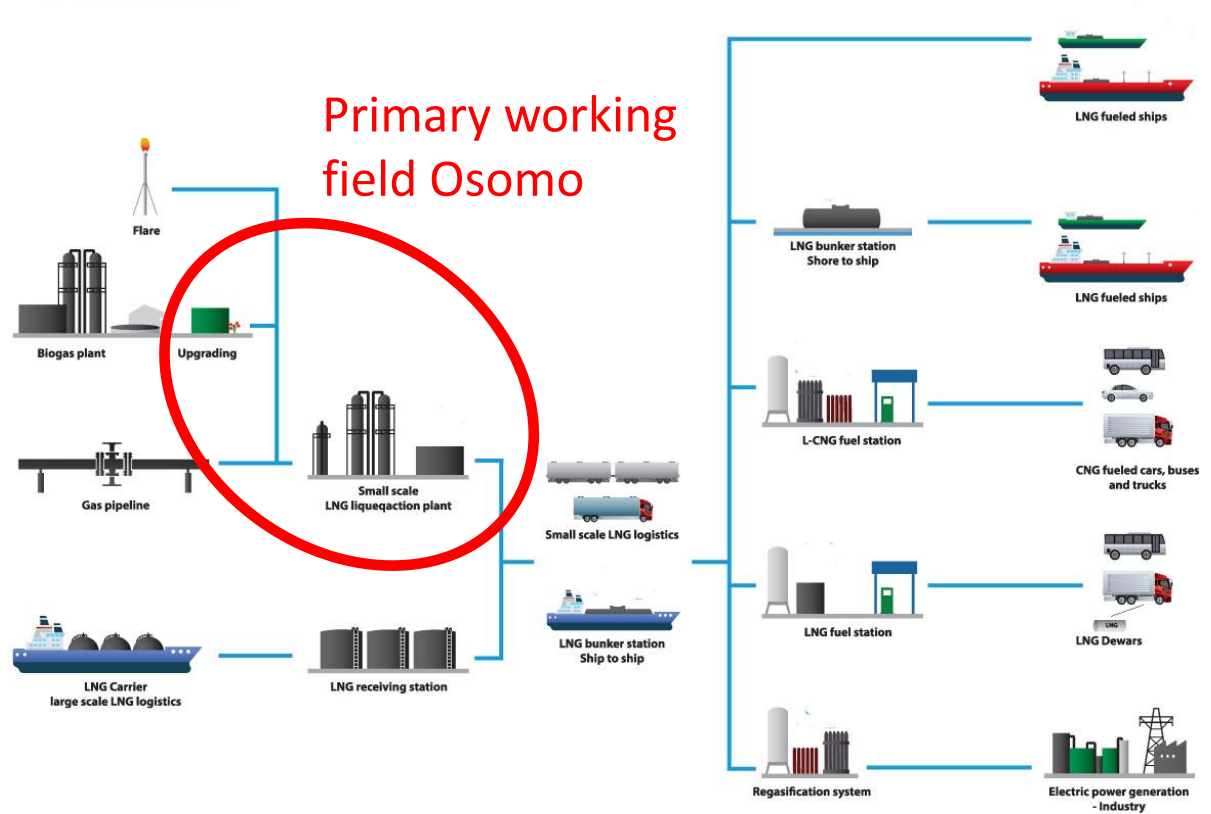
- About My Company
- Small Scale LNG
- Pilot plant project
- Implementing OSIsoft
- Results
- Conclusions and Summary

About my company

- Company profile
 - Technology development for biogas treatment
 - and (bio-)LNG liquefaction
 - Pilot plant development, building and commissioning
 - Patent holder of innovative process technologies
 - Team of 3 professionals
- Personal profile
 - MSc Mechanical Engineering, TU Delft
 - Entrepreneur since 2009

LNG Supply Chain

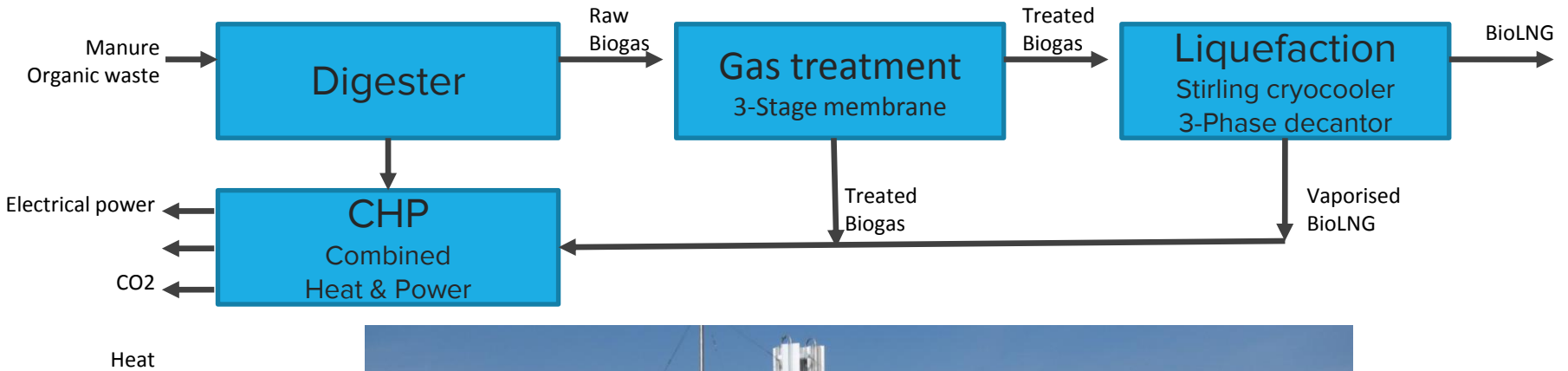
- LNG rapidly developing market
- Decreasing size of systems, like break bulk terminals, fuel stations and small scale LNG production facilities
- Plenty of biogas and untapped small fossil gas sources



Evolution of Bio-LNG product development



Pilot system gas routing lay-out



Impression Pilot Equipment



Conditions for data acquisition

Quick implementation of data acquisition system

Stand-alone

Totally independent of system automation

Easy implementation

Reliable data acquisition

General acceptance of logging method (compatible)

Installed, configured and operated by non-expert

Enabling OSIsoft

Used modules

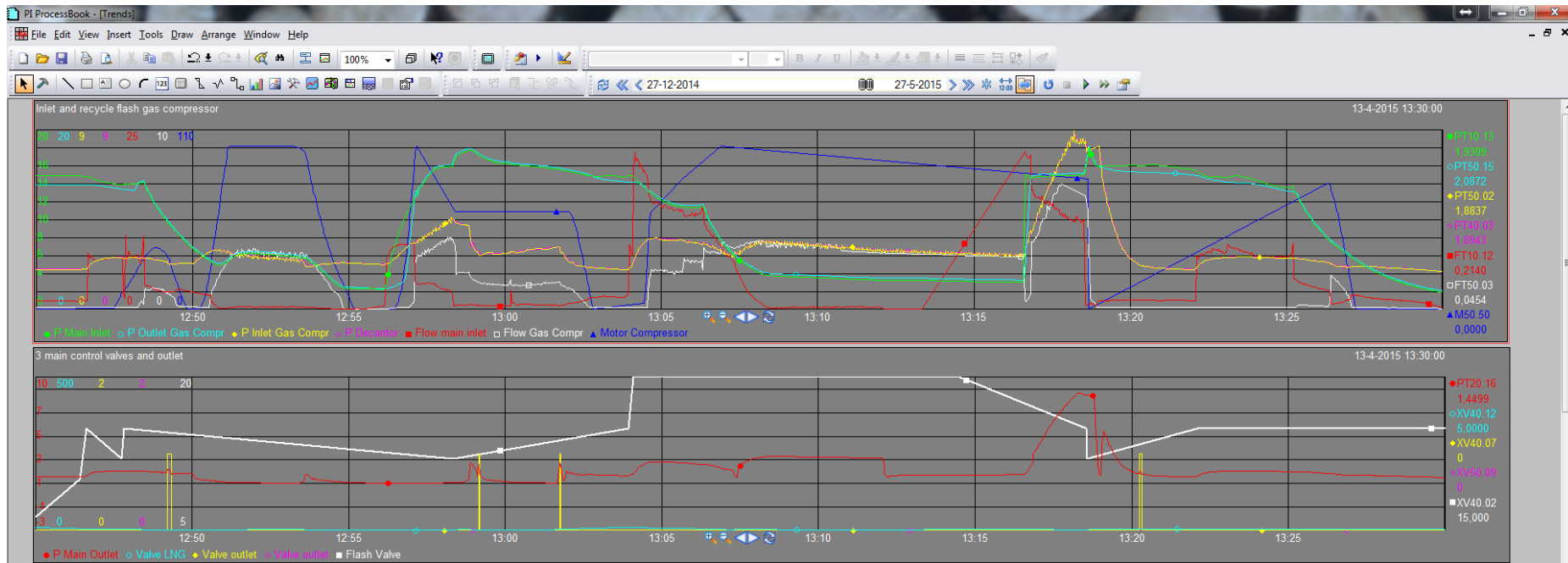
- PI AF Server
- PI Server
- PI Modbus interface
- PI Interface for OPC DA
- PI DataLink
- PI ProcessBook

ABB NGC8206 Gas Chromatograph with Modbus interface
Siemens S7-300 PLC via PI Interface for OPC DA
100 data points
Data acquisition and trend analysis

Benefits of using OSIsoft

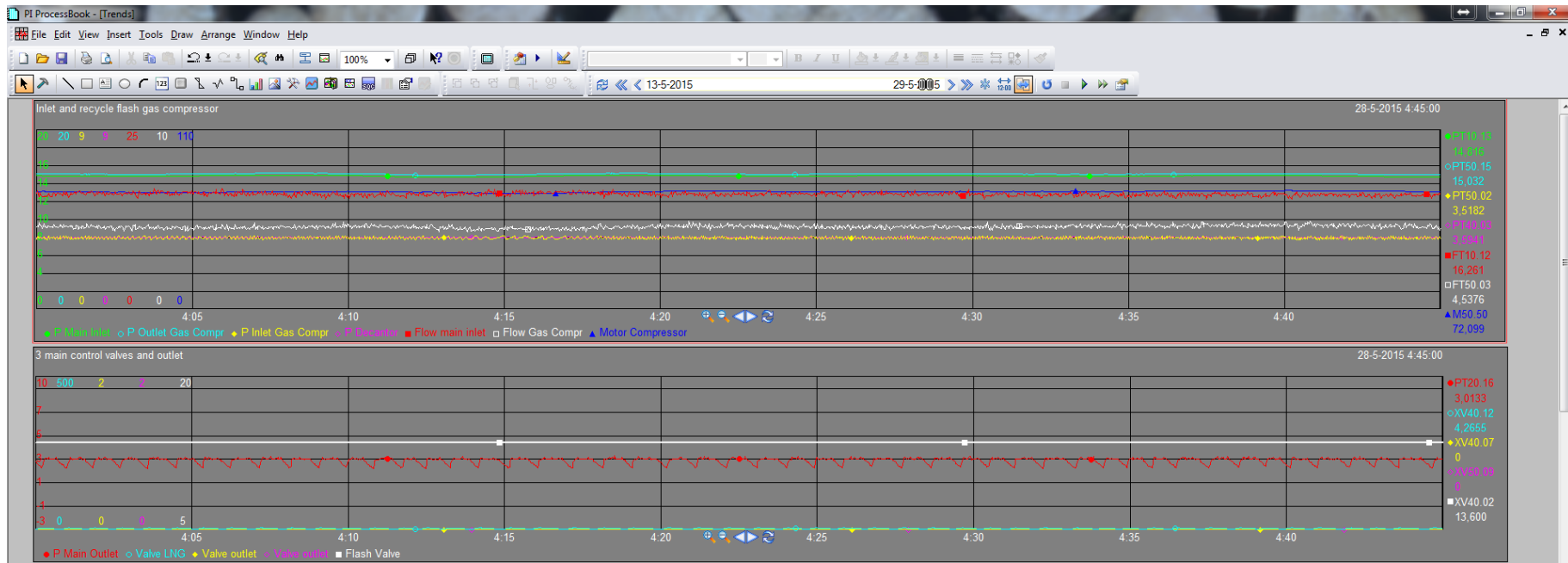
- Independent of plant control software
- Quick trend analysis on the spot
- Data exchangeable with technology partners like Shell,
 - no questions about accuracy and reliability
- Happily surprised about the easy installation and configurability even for a non-expert as myself

Snapshot of trend lines at first start-up: what's going on?



13th April 45 min of pressures, flows, valve positions, etc

Snapshot of trend lines one month later: steady state full process control



28th May 45 min of pressures, flows, valve positions, etc

Results

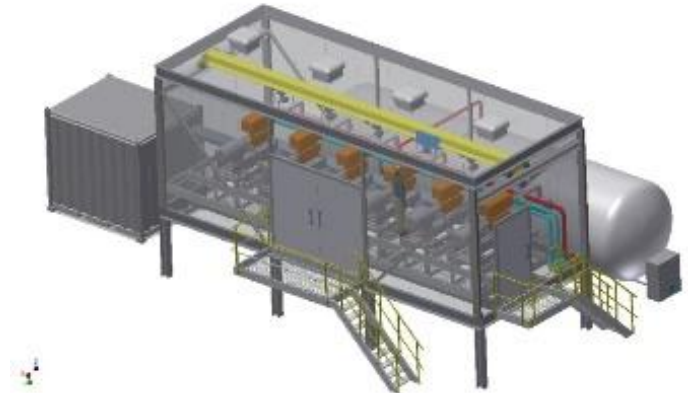
- OSIssoft gave us fully flexible & configurable monitoring, and analysis tools to start-up a new and innovative process
- Compatible with technology partners
- Pilot results today:
 - Full grip on our processes
 - Validated our patent (pending)
 - Validated our simulation models



Bio-LNG tapped in a glass cup

Future plans

- Add OSIsoft to our commissioning toolbox
- Roll out technology at multiple sites to compare and identify “normal operation”
- Permanently monitor all sites with PI System for efficiency improvement & preventive maintenance



Design 5 ton/dg unit

Summary

OSIsoft is suitable for small scale use as a commissioning tool, like pilot environments and research purposes.



BUSINESS CHALLENGES

- A. Start-up a new process
- B. Reliable and general acceptance of measurement and logging method
- C. Easy install and operation by non-experts

SOLUTION

- A. Basic functionality of OSIsoft's PI System

RESULTS AND BENEFITS

- Full grip on process
- Validated simulation models
- Validated patent
- Ready for commercialization of the technology

Contact Information

Jerom van Roosmalen

jerom@Osomo.nl

Director

Osomo Projects BV



Questions

Please wait for the **microphone** before asking your questions



State your **name & company**

Please don't forget to...

Complete the Online Survey for this session



<http://eventmobi.com/emeauc15>



감사합니다

谢谢

Danke

Merci

Gracias

Thank You

Special thanks to:

Tjeerd Zwijnenberg, Sales Osisoft

Nathalien Adebayo, Techsupport

Elena Rakovska, Techsupport

Charlie Driscoll, Techsupport

ありがとう