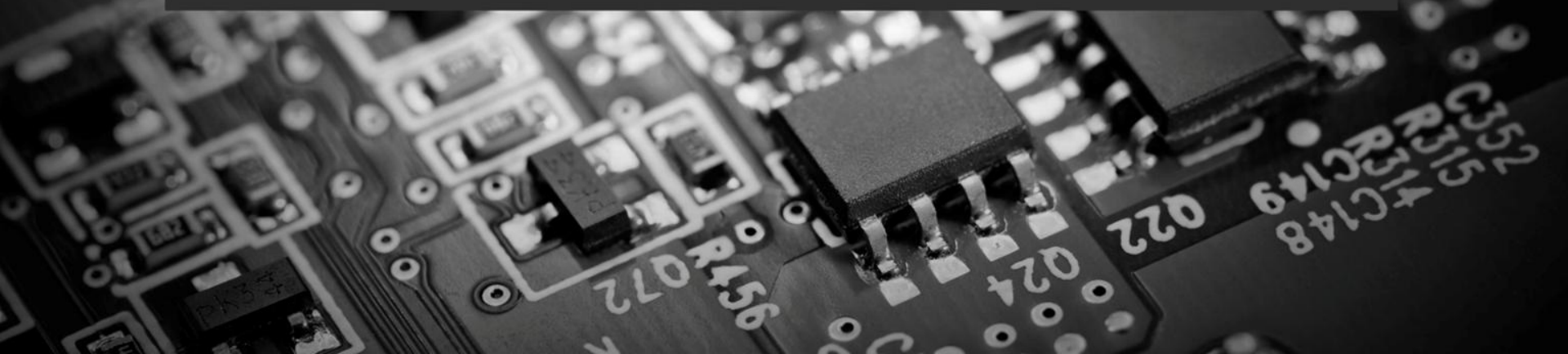




**North Sea
Electronics**

Advanced Solutions for Harsh Environments



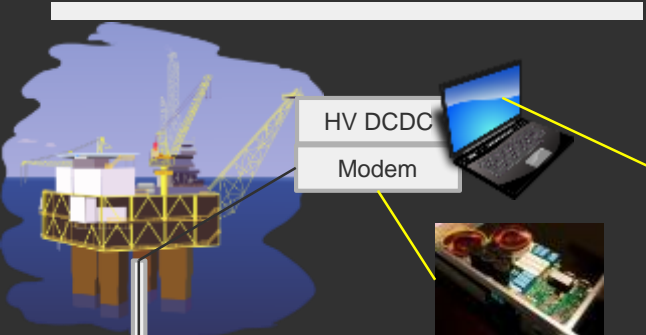
Company







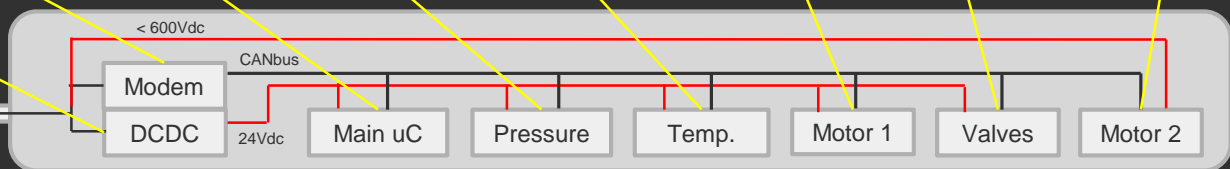
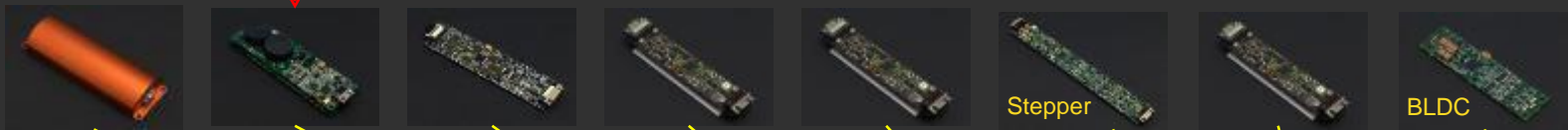
Main Activities

- Located in Bergen, Norway
- Established 2005 as Marin-Innovasjon AS
- Changed name to NSE in OCT 2012
- Privately held
- Electronics design
 - High Temperature
 - High Pressure
 - 177 deg C, 20.000 psi
- Software / Firmware
 - LabView, embedded
- Control Systems

High Temperature Products for Oilwell Applications



-  TEMPERATURE
-  PRESSURE
-  STRAIN
-  ACCELERATION



3rd Party Downhole tool

High Temperature Products



DCDC Converter



Telemetry /
Modem



Processor Board



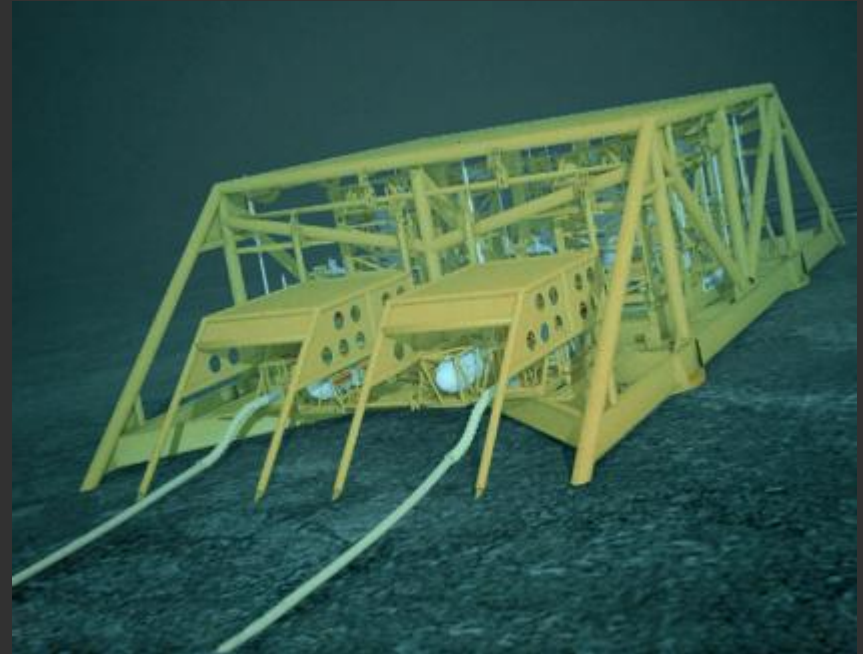
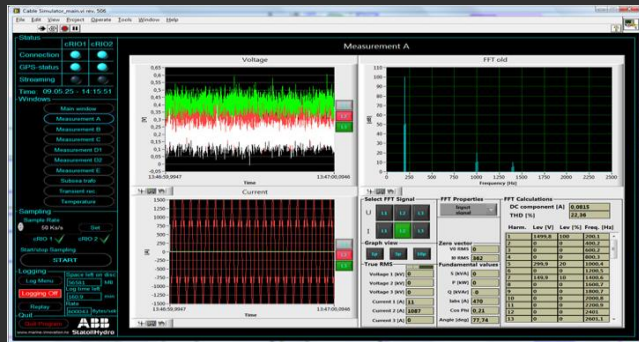
CAN Nodes



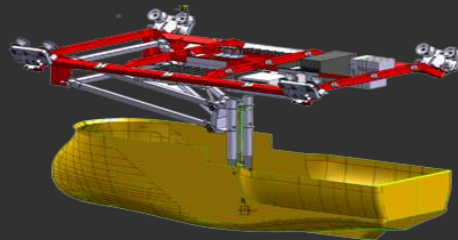
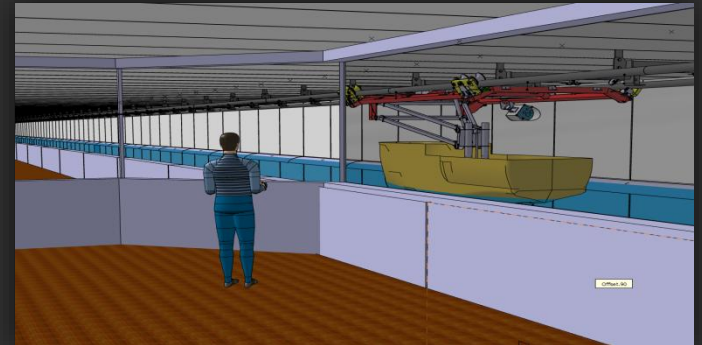
BLDC Motor Controllers

Software

- Realtime Control Systems
- Datalogging Systems
- Condition Monitoring
- LabVIEW specialist (NI partner)



Control & Datalogging



Stadt Towing Tank AS

- Camera surveillance
- Multiple Controller Units
- Control Algorithms
- Data synchronization
- Report Generation

Challenges – why PLM?

- Increasing number of designs
- Designs stored on server in folders
- Need to control revisions, manufacturing documentation,
- Increase reuse of designs
- Preparing for ISO 9001:2008 certification

Why Aras from Minerva?

- Tried free version of Aras Innovator and got interested in functionality
- Custom solution for electronics industry from Minerva
- Good support in research phase from Minerva
- Possibility to do more than just PDM and easily adapt / customize
- Attractive cost structure

Implementation - 2013

- Research of PLM systems available – March
- Initial discussions with Minerva, contract – April
- Installation – April/May
- User and admin training – May
- Customizations & system setup – June-August
 - Custom component library for use with ECAD (Mentor)
- Data migration to Aras – August – ongoing
 - Electronic components in place, switch over to Aras component library in October
 - Design import – ongoing, planned finish December/January (2014)

Beyond basic implementation - future

- Custom functions from Minerva – coming
 - Custom BOM export tool
 - Custom PCBA manufacturing package generator
- Custom functions self developed
 - Register of delivered units with serial numbers, customer info and simple documentation attached (like test certificate)

How are we planning to use Aras?

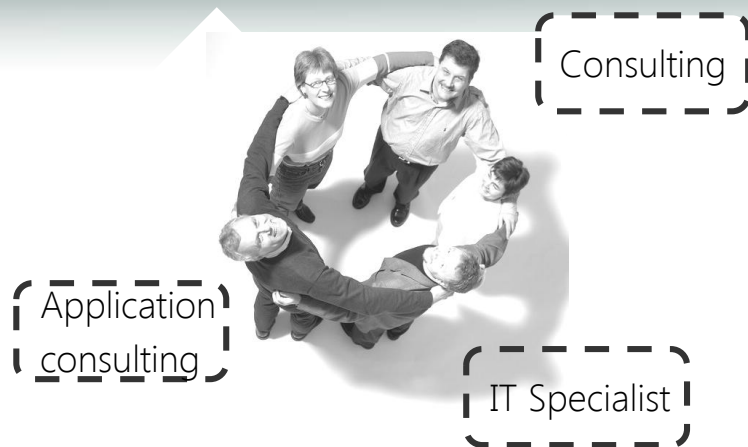
- Pure PLM (PDM) – by end of 2013
- Delivery tracking system – by end of Q1 2014
- Project management – by end of Q2 2014
- Quality Management system – somewhere in 2014

Resources involved

- Minerva (3):
 - Project Manager – Thomas
 - Tech – Finn / Bo
- NSE (2):
 - COO/Aras Admin/Project Manager – Aleksander
 - CEO/IT – Geir-Lasse

Who is Minerva

- Aarhus, Copenhagen, Birmingham, Den Bosch & Paris
- International
- Strong partner network
- Profitable and solid
- Private owned



Differentiation

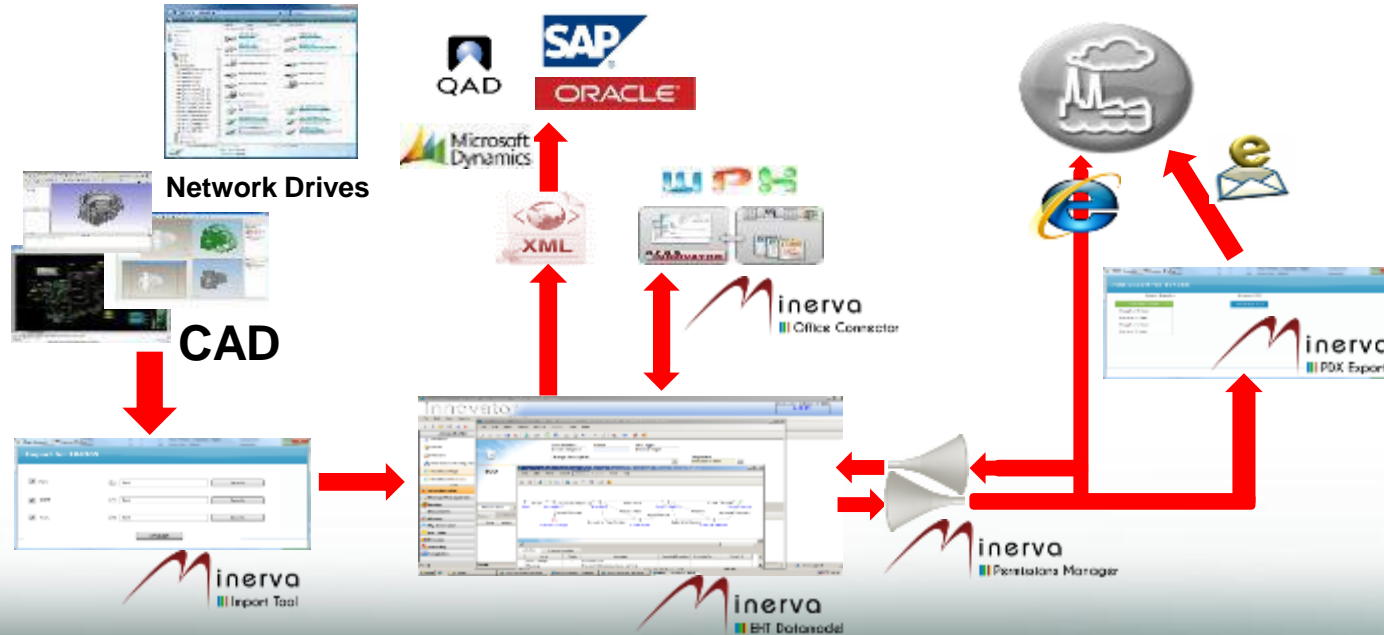
- Manufacturing companies only
- Business Optimization
 - Process Optimization
 - Information Technology
- Long and lasting customer relations



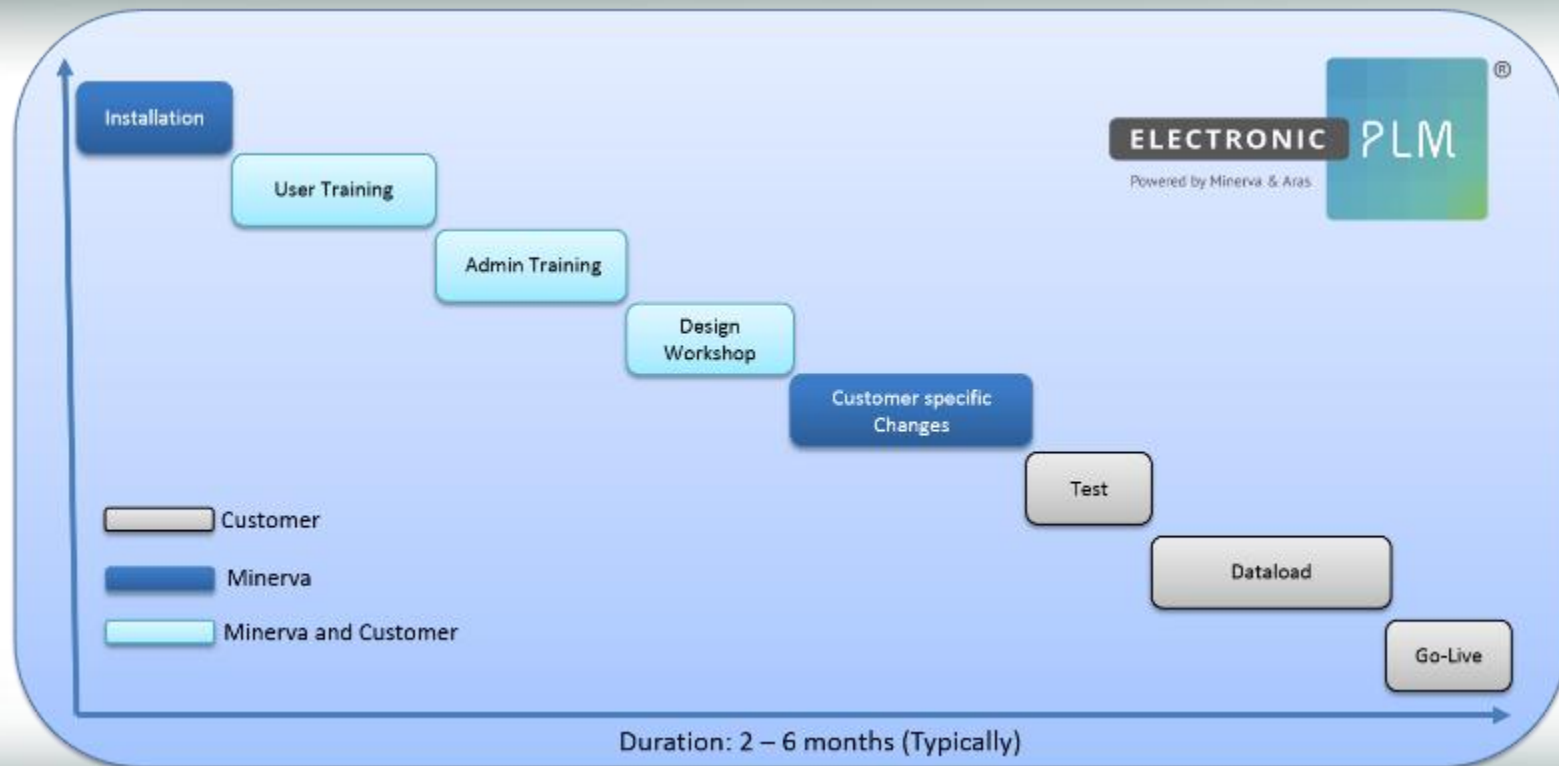
Electronic PLM Solution Overview

ELECTRONIC PLM

Powered by In-ner & Ser



Typical Implementation



Electronic PLM Customers

SUB10
systems.com

PRICER

auditdata
Your Partner in Audiology Solutions

cr-ssc-ntr-1

c*pac
TAKING CONTROL FORWARD

SMARTV

Consilium

Kamstrup

**North Sea
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Some of our other Products

- Medical Device PLM Solution
- Mobile UI Interface
- Extended Collaboration Access
- ConflInnovator



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