Odda Technology as
Core component & turn key producer

Odda Digital System as
Industry 4.0 - visual Management

From RIO to Odda
Norwegian system industry

Kongsberg Våpen from 1800 to 1945 -> 1970’
Mainly produces technology weapons, but slights over to civilian purposes

Statoil 1972
Norwegian government decides to establish Statoil to handle oil activity and explore and sell petroleum and systems

Kongsberg Offshore 1974
Norwegian government decides to establish Kongsberg Offshore to create an undersea technology industry in Norway, based on Kongsberg Våpen competence

Kongsberg Våpenfabrikk, Odda 1977
Establish Odda factory for the purpose of producing gas turbines and jet engines, through the 80’s converts to subsea factory

Odda Technology 2016
Established as a new company in Odda facilities to bring the system heritage further on.
Odda environment timeline

Key Events

- **1977**: Kongsberg Våpenfabrikk established
- **1987**: Acquired by Steinsvik
- **1990**: First Subsea connection was produced in Odda, become the main supplier to NCS/Africa
- **2004**: Acquired by NLI
- **2011**: Global cooperation with FMC
- **2015**: NLI group stops
- **2016**: Odda Technology Odda Digital System established
- **2016**: Odda Environment

Other notable events:
- **1977**: Volvo Aero acquired by Steinsvik
- **2011**: Aker, GE, OneSubsea
- **2016**: Odda Technology Odda Digital System established
Typical products
High accuracy & pressurized

Gas turbines & jet engine parts
KG2/KG 5

Refurbishment Valves, Crushers & Pumps

Umbilical Hubs

Pipe repair clamps

Hydraulic X-mas Tree Connectors
Multi/singelbore hubs & connectors
Project references / end customers

Kaombo (Africa)
RLWI, TTRD (NCS)

Hyme, Gullfaks, Oseberg, Åsgard, Gjøa, Marulk, Visund, Yttergreyta, Tyrihans, Vigdis, Smørbukk, Heidrun, Norne, Volve Loke, Tordis, Troll, Ormen Lange, Statfjord, Johan Sverdrup (NCS)

Girasoll, Clov, Eqina, Pazfloor, Rosa, Germ, Framo, Girri, Kaombo (Africa), Laggan Tormore (British CS)

Ormen Lange, Draugen, Troll–B, –O2 (NCS), Shell Prelude (Australia), West Boreas (MG)

Wheatstone (Australia)

Brownfield, Great Western Flank, Enfield, Vincent (Australia)

Ekofisk (NCS)

ExxonMobil

Balder (NCS), Marulk (NCS)

Marulk (NCS), Kitan (Australia)

Baobab (Africa)

Block 17, Block 18 (Africa), Pluto (Australia), Shah Deniz (Caspian Sea)

Knarr (NCS)

Kirinskoye (Sakalin)

Major projects
Odda Technology
Major external contributors & stakeholders

Projects to finish

KAOMBO: AN AMBITIOUS ULTRA-DEEP-WATER OFFSHORE PROJECT

Johan Sverdrup—the North Sea giant

Rio de Janeiro

Odda
Odda Subsea ‘cluster’

Pre-project with GCE
Industry cluster in Hardanger

Industri

Subsea

FOU

Nye produkter

Havbruk

System
Industry 4.0

Produkter
VisualTracking
VisualQuality
VisualRegistration
VisualAccounting

BKS as
REINS
BILFINGER

Statkraft
HMR

Industri cluster in Hardanger

HORDALAND FYLKESKOMMUNE

Innovasjon Norge

ODDA TECHNOLOGY

ODDA DIGITAL SYSTEM

ConocoPhillips

Total E&P Norway

Halsnøy Dørk

Bilfinger

EasySubsea

Zenit

Zenit Engineering
"Local value with global reach"

Collaboration with digitalized tools

Actors on all tiers in the development process

Tier 1. level

Tier 2. level

Tier 3. level

Global supply chain

Brazil

Norway

Selected companies

Global collaboration
Collaboration BR/NO

"Local value with global reach"

➢ Young intelligence combined with established experience

➢ Join the best from both countries into a digitalized future

Rune Torblå, CEO - Odda Digital System
Rhuan Barreto, CTO – Odda Digital System

Company, products & opportunities
Established as a spin of from Odda Technology

- Subsea branch’s need for control, cost reductions & efficiency

- Digitalize & visualize complex project and production processes

- Key facts
  - Based In Odda
  - 8 resources
  - International capacities
  - Proven IT products
  - Brazilian ‘prepared’
Digital industrial toolbox
Visualize complex processes

Digitalized process control system for supplier industry
Customer & sub supplier portals

Digitalized ISO quality system, simple overview of procedures & processes

Digital time registration, on pc & mobile

Digitalized quote & accounting system

Digitalized documentation system

Benefits
➢ Customers have direct access and avoid costly following up
➢ Suppliers work digital
➢ Sharing of HSEQ information
➢ Sharing of project & production info
From Rio to Odda

Opportunities

- Finep RCN Project
- Successful conversations with the Norwegian market
- Cooperation with ODS
- Digitalization as a strong driver in Norway
- Support from Odda Kommune and Hardangerråd

easySubsea Norway

Establishment of a company to bridge the gap between Brazil and Norway technology development
Challenges

Brazil
- Financials
- Economy Downturn
- Market Mindset
- R&D Regulations in Early Phase

Norway
- Different Market Requirements
- Cultural Differences
- Competitiveness on complex projects
- Costs
Norway - Brazil
Global collaboration

Questions?