**Digital solutions & services**

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Comments from the PB meeting

Y. Li:

• Add Digital twins

• Add Large data

• Add Data transfer

O. Bernstrauch:

• Large data and Data transfer should be merged under Data management

M. Ruggiero:

• Add Component tracking or component based management

Digital Solutions and Services

The development of digital technology over the last decade has led to Industry 4.0, the 4th industrial revolution, which is enabled by the Industrial Internet of Things (IIoT). Remote monitoring and on line machine monitoring is not new so the advantages of IIoT is not initially obvious, plus with concerns over cyber security and ownership of data means that Oil and Gas and Power Generation industries have been cautious in adopting digitalization. Business IT networks and business procedures would need to be evolved to take advantage of digitalization. For this to happen the benefits of digitalization need to be examined and understood and it is not yet full clear what these benefits are, the suggested topics here should be aimed to investigate and answer the conserns and highlight benefits to the end users.

Cyber Security

This section should consider remote connectivity, hardware firewalls, business risks, cloud solutions vs client side networks, ownership and location of data, implementation of applications, Quality Assurance.

Review potential architectures

Not all digital solutions will be suitable to industries involved with ETN, remote locations, off shore installations, FPSO ships ETC. Some will work better than others, this sections will review the connectivity opportunities digitalization/cloud access technologies may bring to end users. Technology is already present how can this be best used.

Benefits

When machine data plus asset and business data comes together the opportunities of analysis increases to a point we have not been used to. The affect of machine performance on a whole business and network can be analysed, reliability data and production forecasting can be performed quickly and more accurately. Some of the benefits may not be known yet. ETN should look into the ways in which digital solutions can help its end users.

Software as a service

Having data in one place means that analysis tools and services can be deployed differently, the days of buying and installing software on a PC have evolved into deliverable of a service which provides business benefits with a monthly fee or charge per use business model. This section should look at what these options are for ETN members and what business KPI’s these can solve.