NFOGM
NORWEGIAN SOCIETY FOR OIL AND GAS MEASUREMENT

Functional Requirements to Allocation Computer Systems

By Odd Erik Dahlen

Tekna

2014-06-06

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Why prepare?

2014-Jun-05: Odd Erik Dahlen

Statoil

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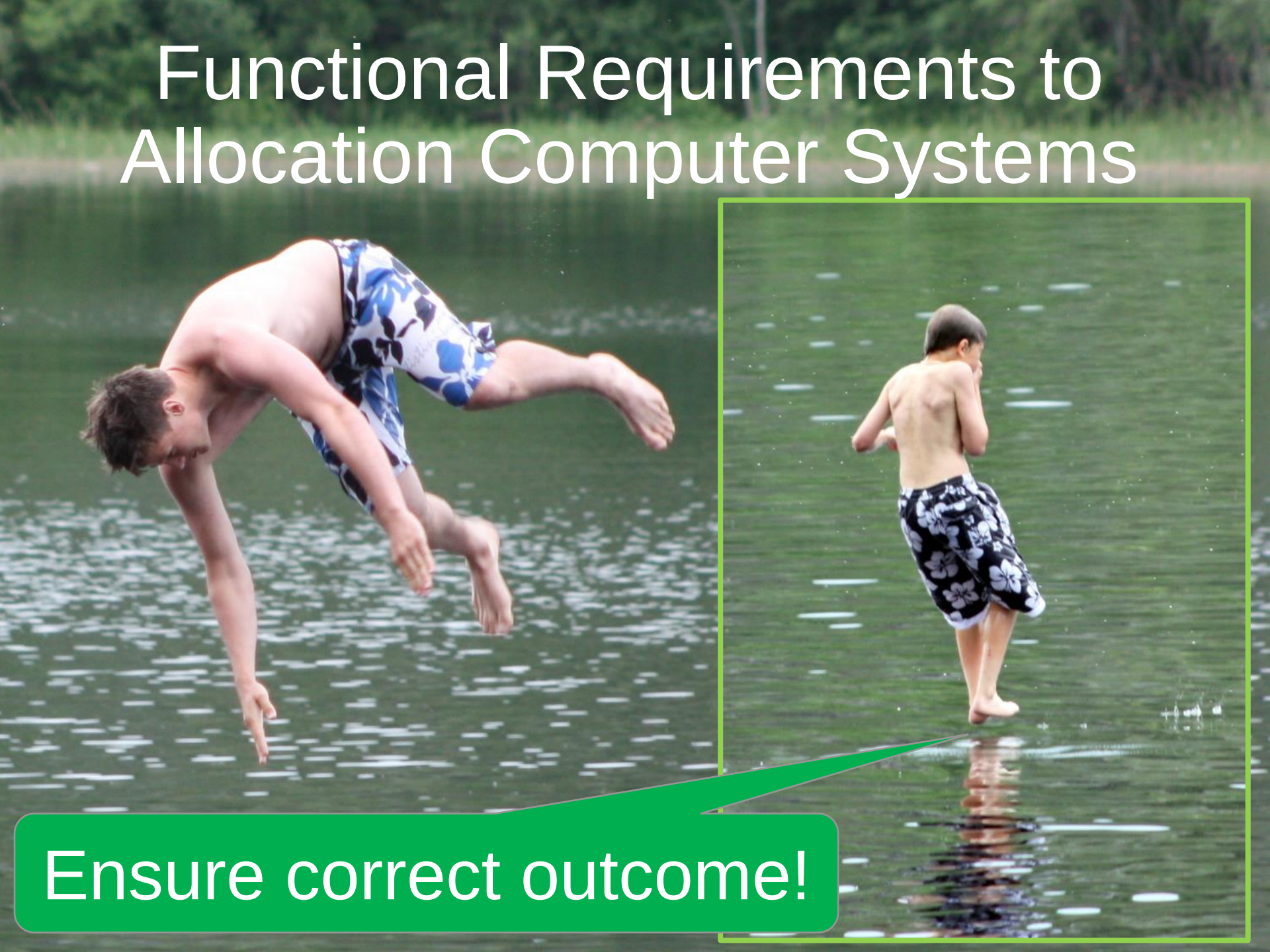

Ensure correct outcome!

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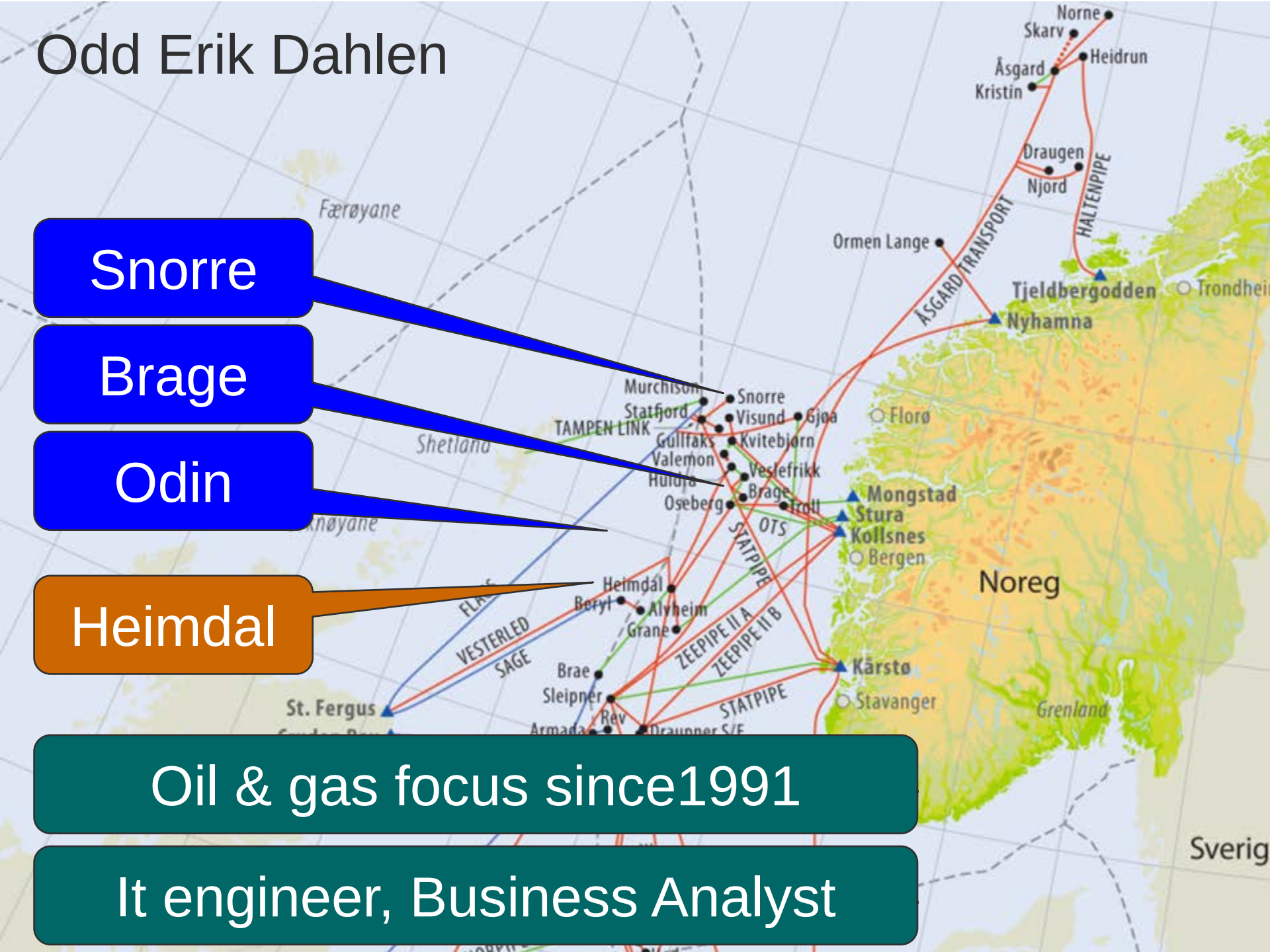
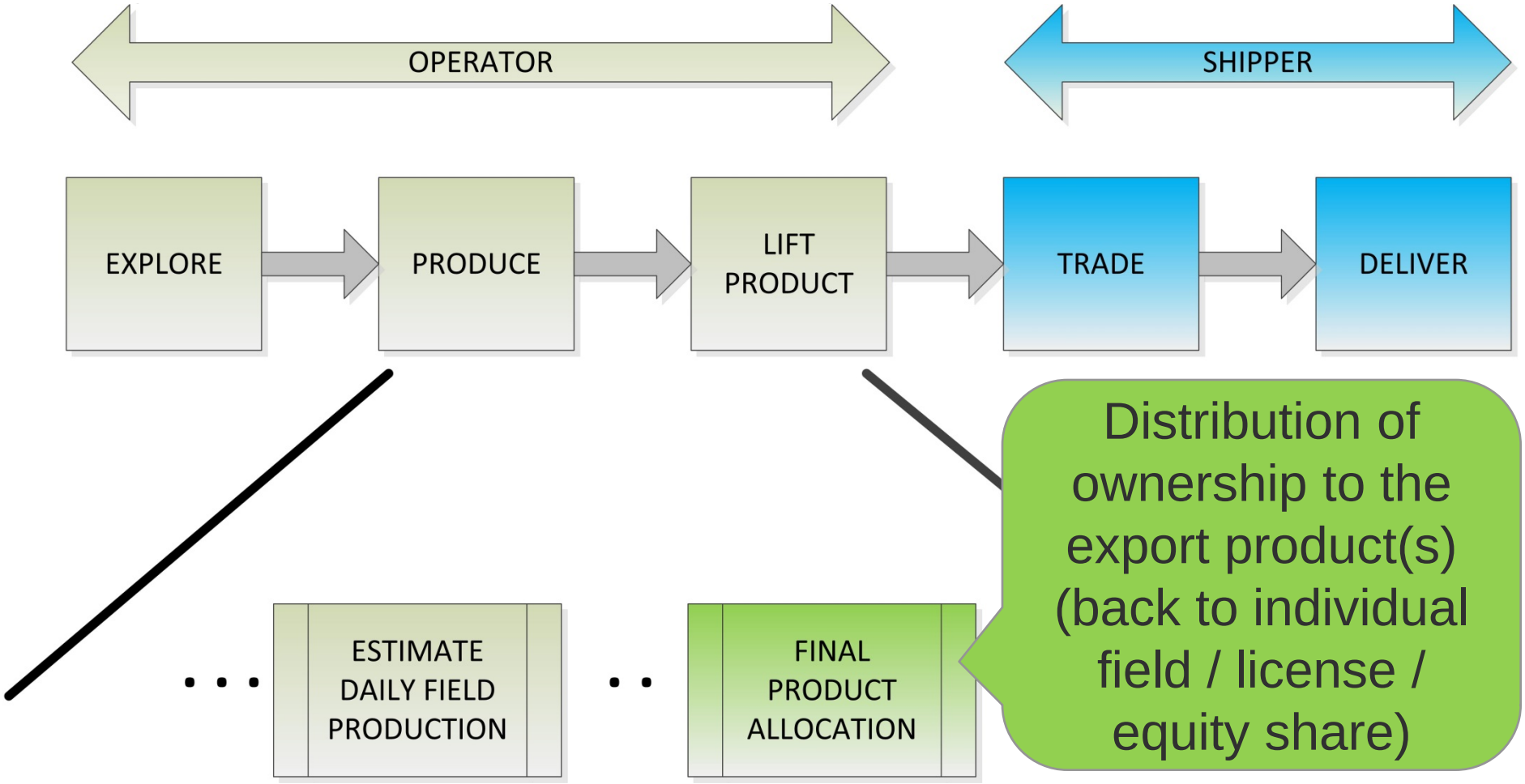
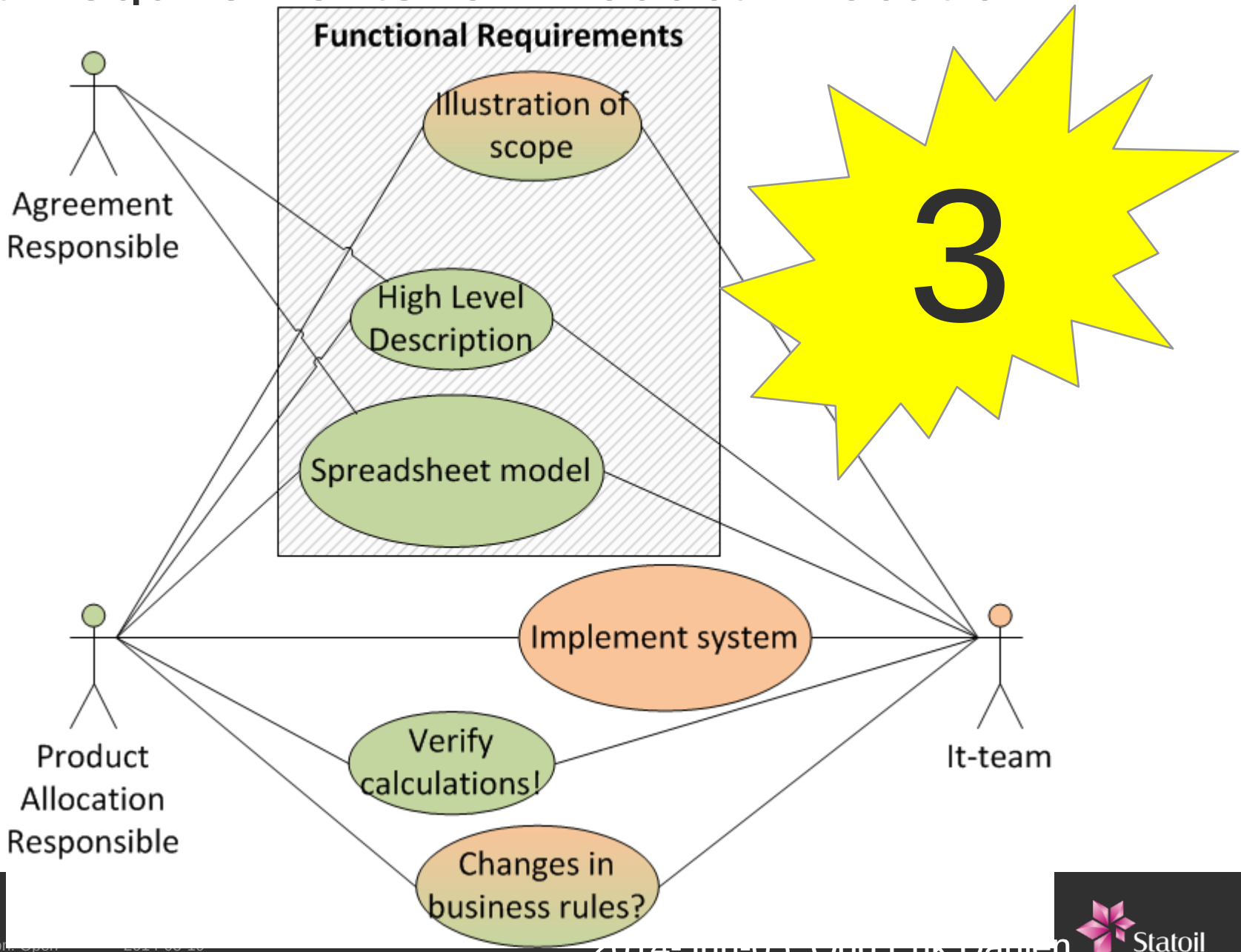


Activities in the Hydrocarbon Value Chain

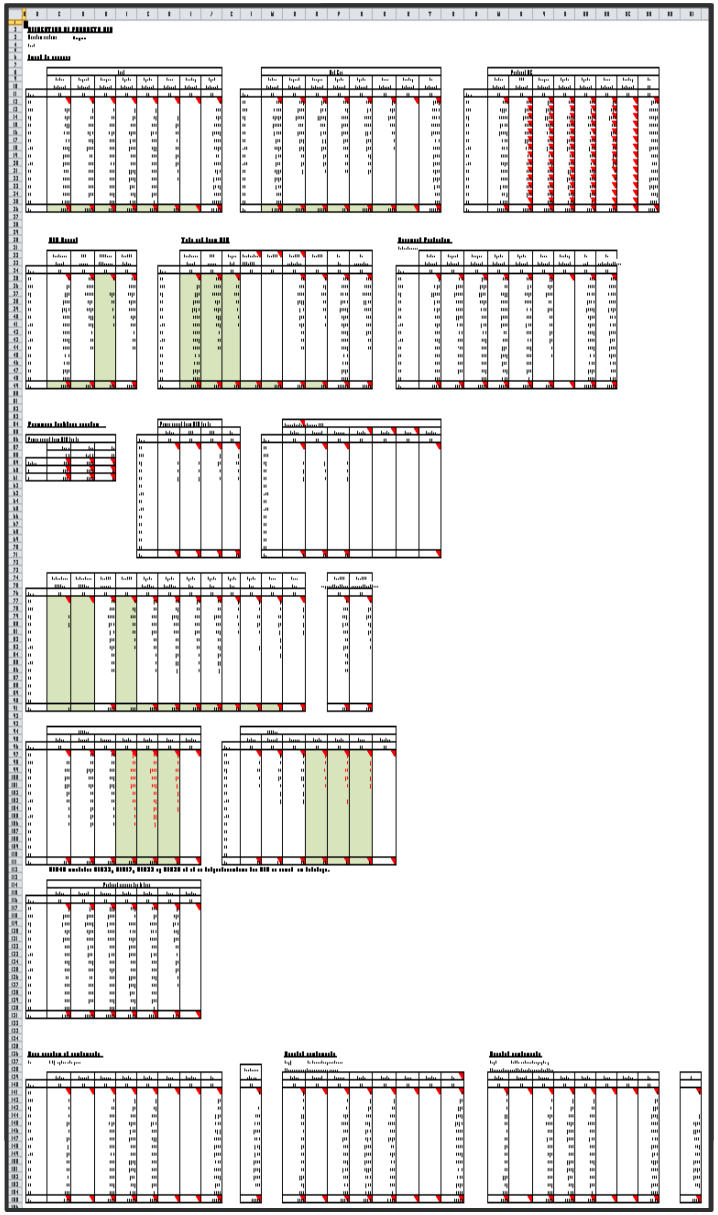


Elicit Requirements for Product Allocation



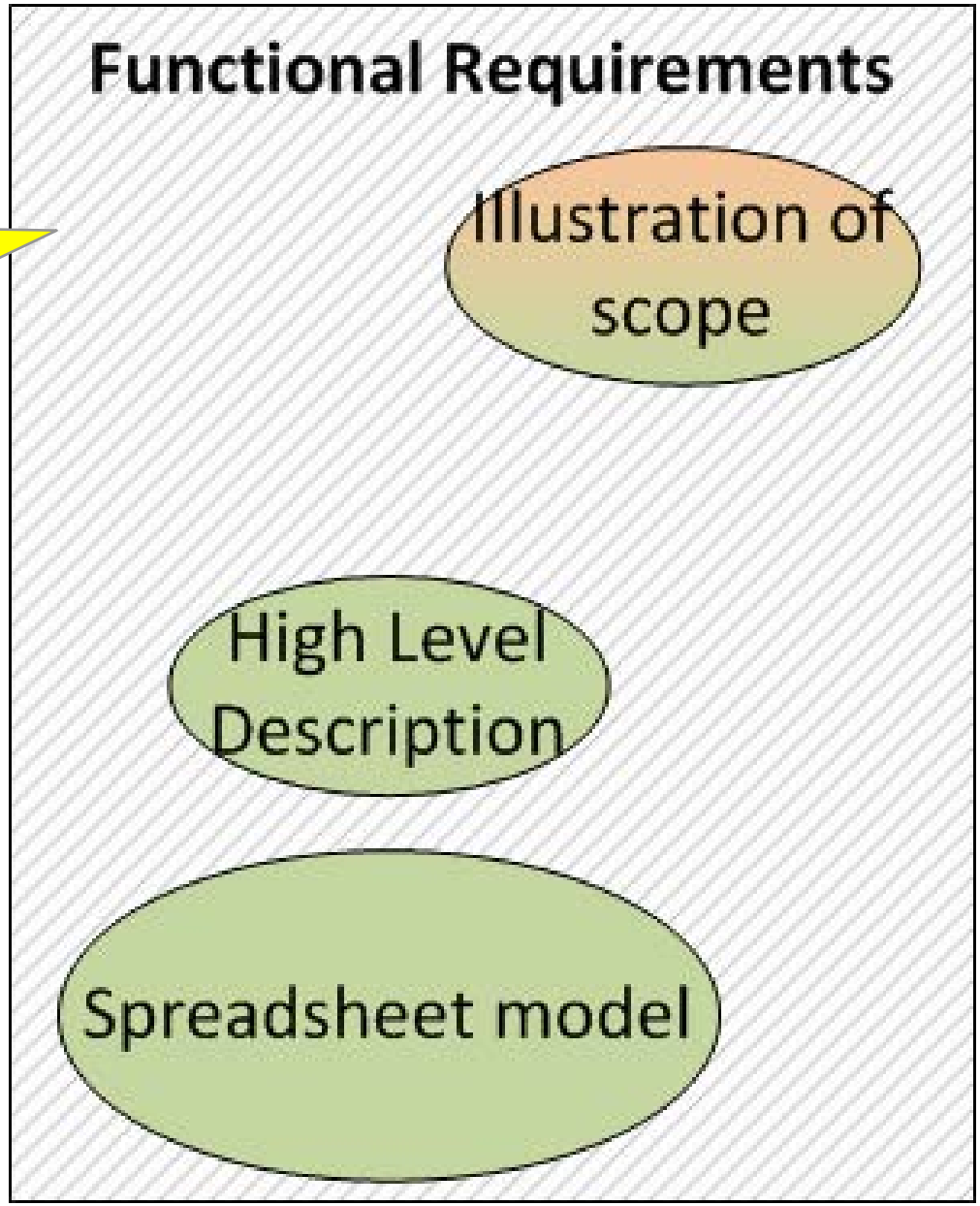
Artifacts

- Illustration of Scope
- High Level Description
- Detailed spreadsheet model



(KISS: Keep It Simple Straightforward)

3 things to remember !



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Questions ?

There's never been a better time for good ideas

Thank you for your time!

Functional Requirements
To Allocation Computer Systems

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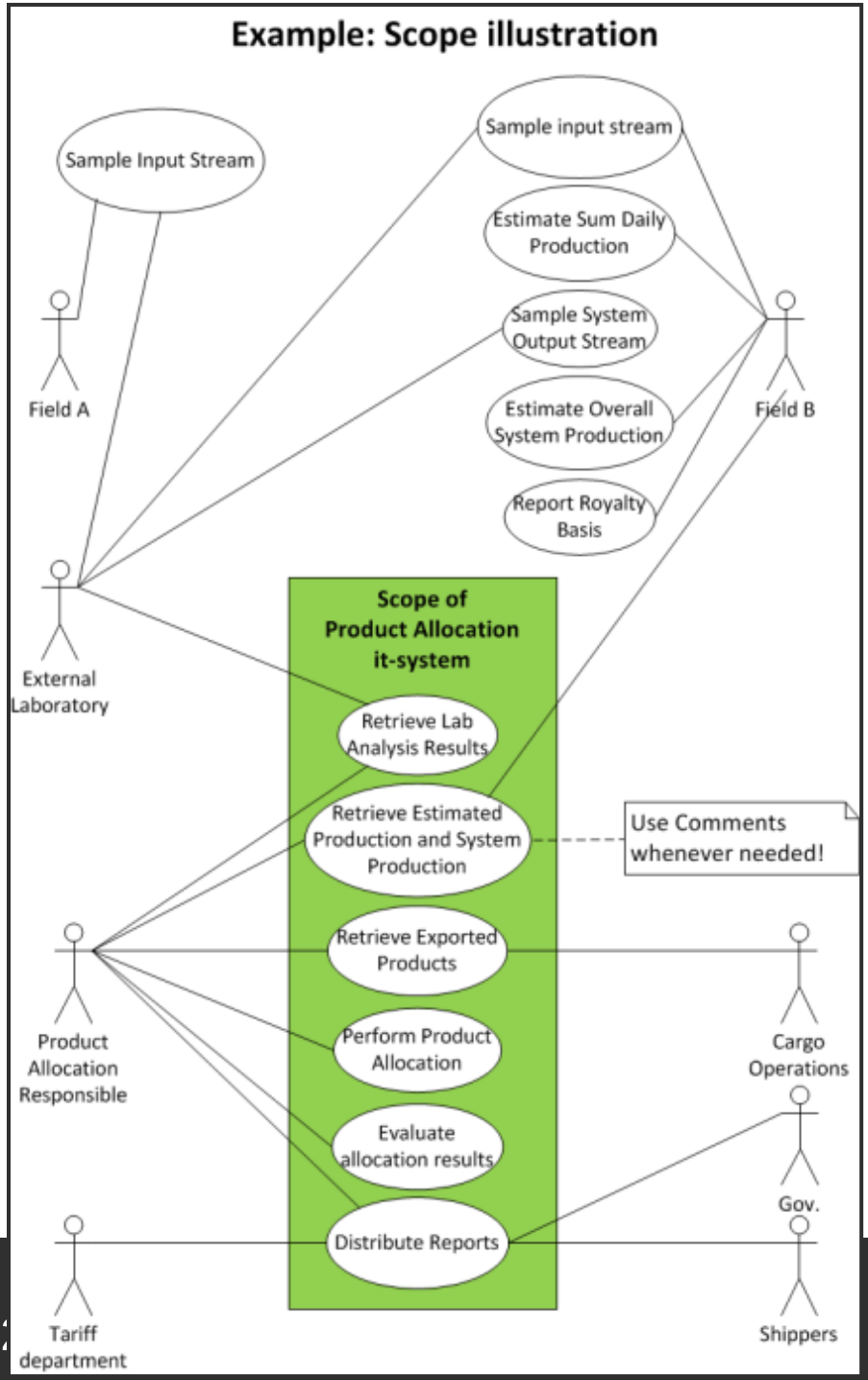
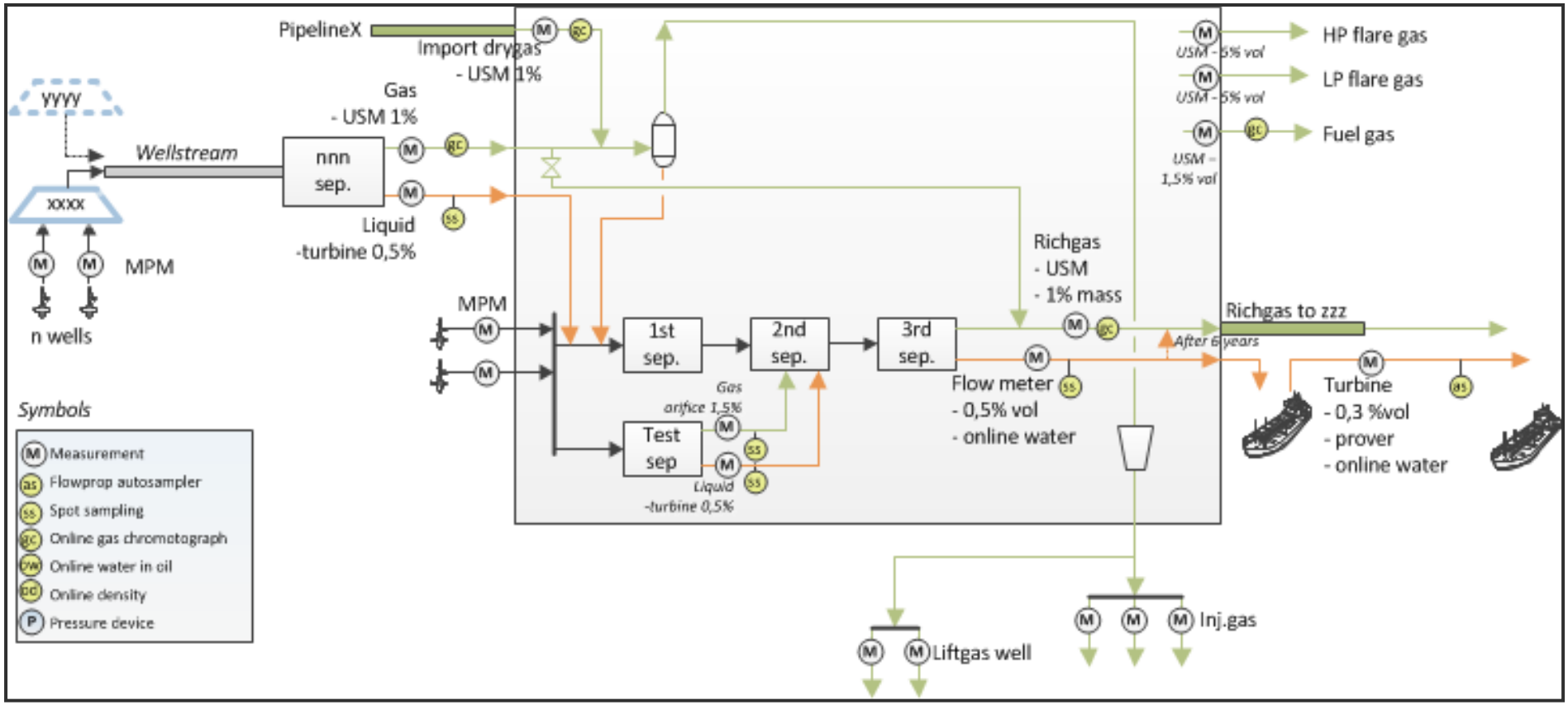
Extra slides

Example: Illustration of Scope



Example of simplified process illustration



Interesting links:

- **Understanding the impact of poor requirements:**
  - http://www.iag.biz/resources/library/business-analysis-benchmark.html
- **BABOK:**
  - The collection of knowledge within the profession of business analysis and reflects current generally accepted practices
  - http://www.iiba.org/babok-guide.aspx
- **UML: Introduction to Unified Modeling Language**
  - http://en.wikipedia.org/wiki/Use_case
  - http://www.ibm.com/developerworks/rational/library/769.html
- **Remember to follow the KISS principle!**
  - http://en.wikipedia.org/wiki/Keep_It_Simple_Stupid
- **Business Analyst; what is it:**
  - http://www.fti.co.za/downloads/The_Profession_of_Business_Analysis.pdf

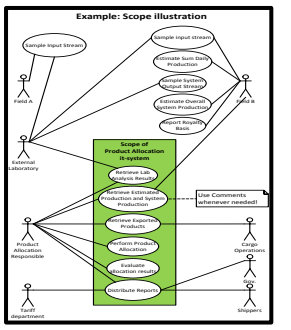
"The Impact of Business Requirements on the Success of Technology Projects 2008" Keith Ellis, IAG

- *"Companies pay a premium of as much as 60% on time and budget when they use poor requirements practices on their projects."*
- *"Over 41% of the IT development budget for software, staff and external professional services will be consumed by poor requirements at the average company"*

- See Executive Summary
  - http://www.iag.biz/resources/library/business-analysis-benchmark.html

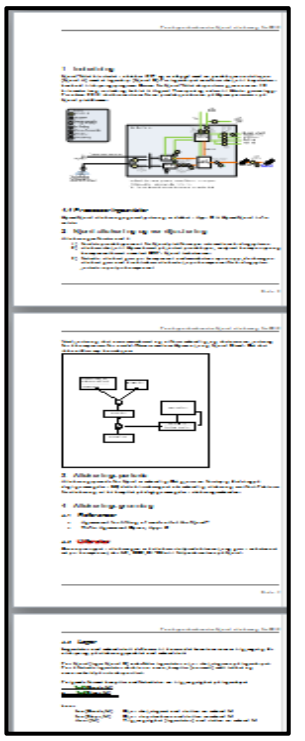
Illustration of Scope

- What: One or maybe two pages illustrating the scope of work and also the external and internal stakeholders/interfaces. Show essential input sources/actors, main activities in the process of allocation and central output results&reports. Illustrate closely related business activites outside the scope.
- Why: Ease communication and establish a common language between the business, project organisation and IT-team. Illustrate activities that will be or will not be covered by the it-system. Ensure that no activity is forgotten.
- How: Use simple sketches (e.g. in UML-format) to show activities, stakeholders and what is inside/outside the scope.
- Owned by: The Allocation Responsible



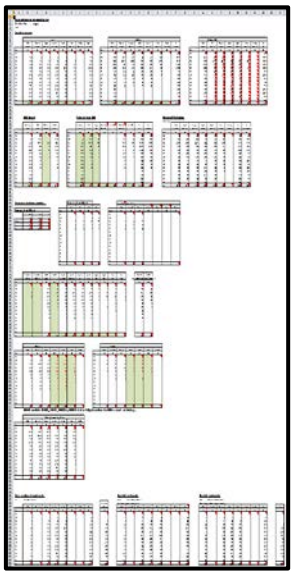
High Level Description

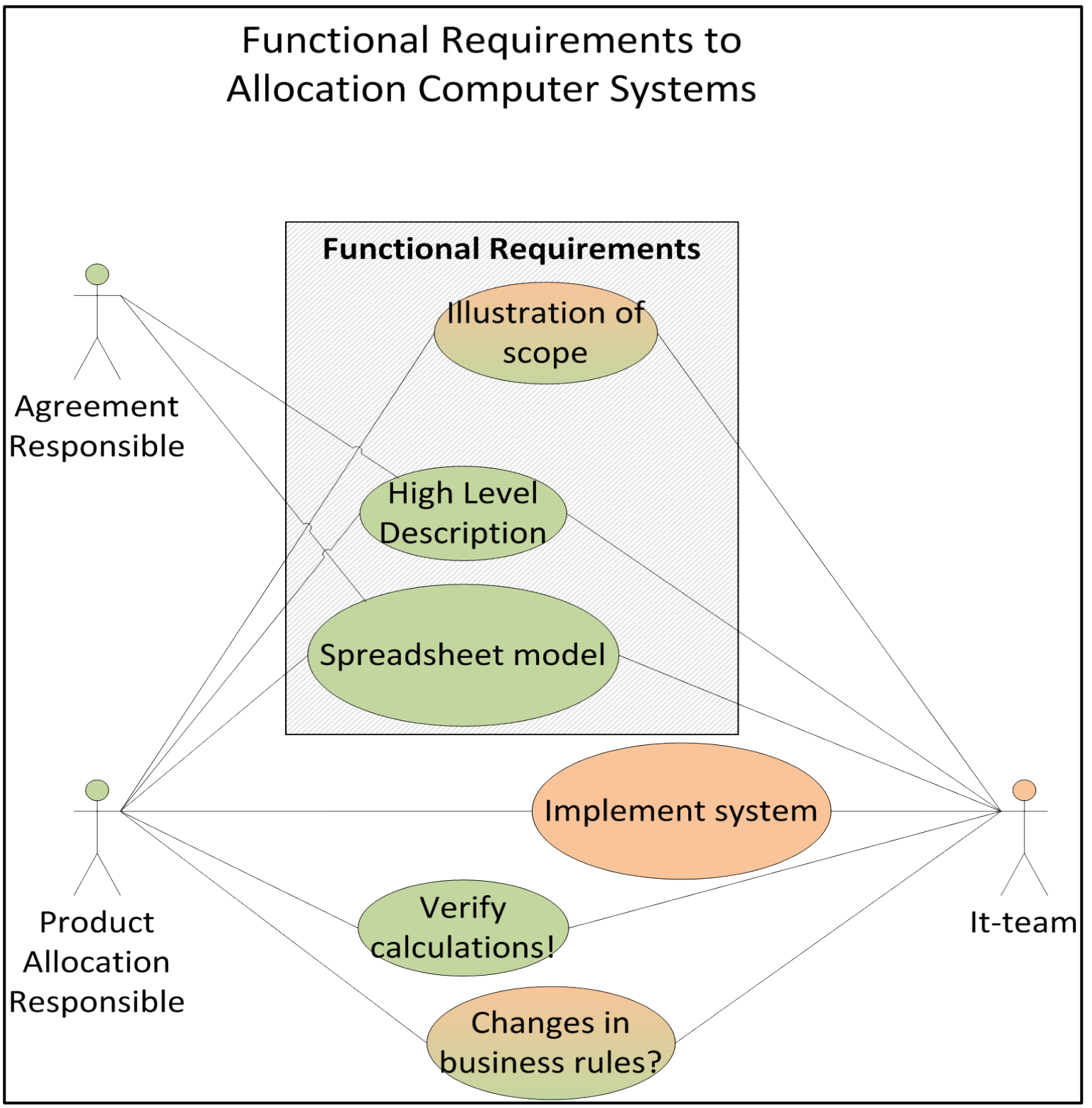
- What: A high level description of principles outlined in the the allocation agreement and how to interpret relevant business rules. Overview of which reports to issue at which time, internal and external interfaces (both technical and manual). Simplified sketch of processing facility with all allocation streams and metering points. The document is kept updated throughout the field lifetime.
- Why: Agreement texts can be ambiguos and need to be interpreted. Ensures that both business and it-team interprets the agreement the same way. The document can be used as an introduction to the field allocation agreement.
- How: A text document with illustrations and a description of business rules.
- Owned by: The Allocation Responsible
- Contains:
  - Short introduction to the field/installation, history and main products and production streams
  - Simplified process illustration with all allocation streams, processing equipment, metering equipment etc.
  - Reference to Allocation agreement within the project scope (and other relevant agreements)
  - Main allocation principle (text and illustration) in more detail than the agreement
  - Allocation period, factors etc. to be used
  - How and from where the input values are obtained.
  - Who is responsible for measurements/analysis.
  - How to convert between units
  - Rules for handling imbalance
  - Description and rules for any commercial allocation to be handled by the operator
  - Description/overview/examples of reports and interfaces (not on a detailed level)



Detailed Spreadsheet Model

- What: A spreadsheet model with all equation details needed to do a product allocation calculation. The spreadsheet is kept updated throughout the field lifetime.
- Why: The model is a basis for agreement model testing. Is a precise description of what to implement in the it-system. Is a tool for testing it-implementation. Is a backup allocation system
- How: Divide the spreadsheet into separate sections/sheets for: input to allocation, detailed calculations, allocation results, each report & interface. All equation details should be modelled into the spreadsheet, e.g. rounding and reuse of data. Add all equations necessary for calculating all reporting and interface data.
- Owned by: The Allocation Responsible
- Contains:
  - All input data necessary for calculations
  - Detailed calculations and references to agreement
  - Description of any calculations not modelled (incl. reason for not modelling this calculation)
  - Allocation (calculation) results
  - One sheet per allocation report to be generated. The report sheet could show layout of report.
  - One sheet per system interface where data is received from / distributed to





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