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Protecting people and planet

WORLD CLASS – through people, technology and
dedication

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PUBLIC



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The Business Value of Becoming Data Driven – Insights from KONGSBERG

Pål Gunnar Conradi

PLM Road Map™ & PDT North America 2026

AI in PLM: A Disruptive Opportunity and Challenge

Turning AI disruption into enterprise value:

Strategic insights for the PLM professional

CIMdata

6-7 May 2026

www.CIMdata.com

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Agenda

- KONGSBERG
- Business challenges
- Information handling
- Digital backbone + 40 years
- Scalable data driven process
- ISO 29148 / related to ISO 15288
- Compliance with evolving regulatory framework
- Reflections - going forward

From the deep sea to outer space



Space

World-leading provider of ground station services and Europe's largest low-Earth-orbit satellite manufacturer



Strike missiles

Premier supplier, selected by 15 nations



Air defence

Most sold air defence system in the world, selected by 17 nations



Remote weapon systems

~80% global market share



Sensors and sonars

Global supplier to civilian and military customers, including most research vessels



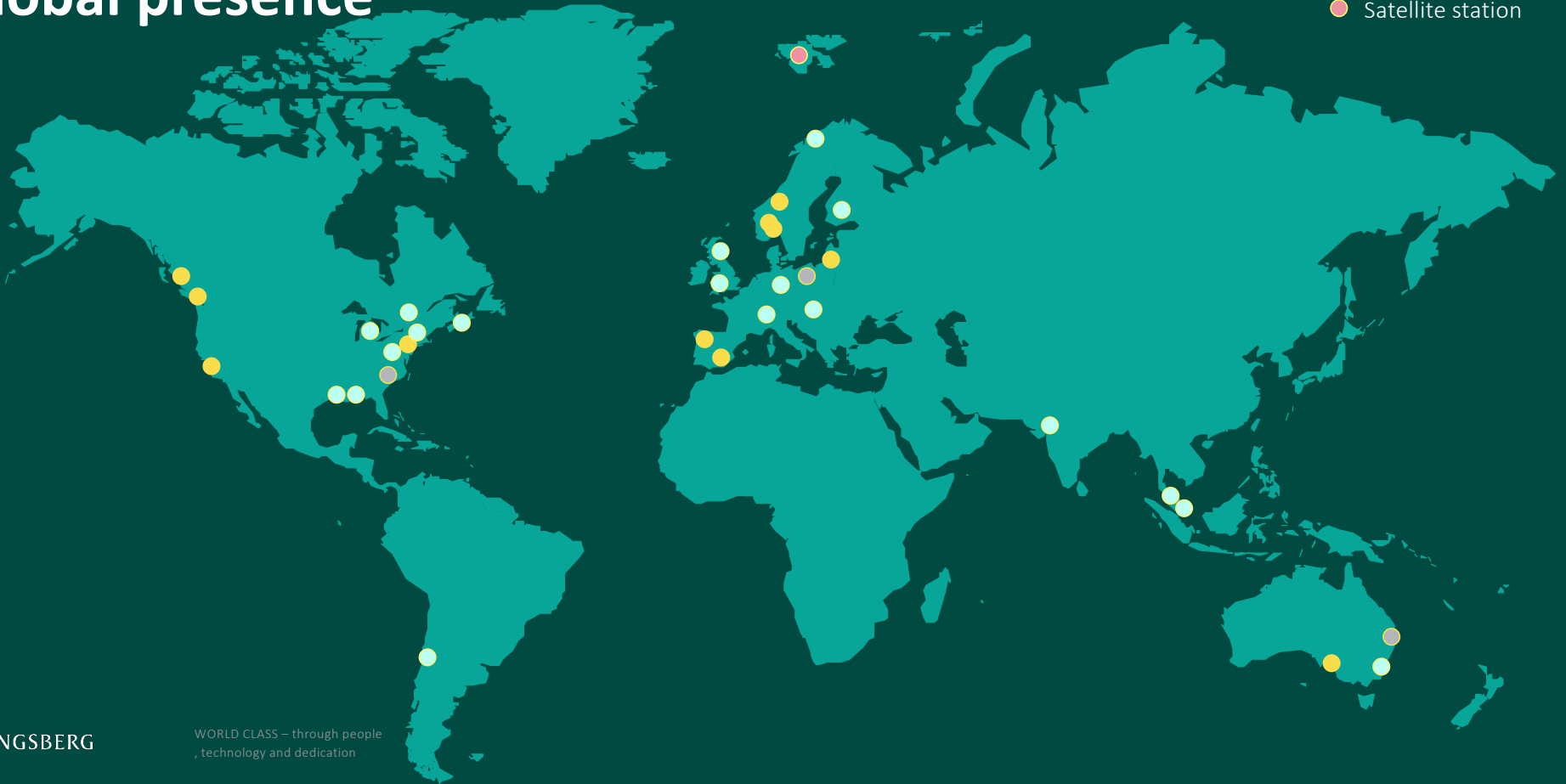
Autonomous underwater vehicles

Number one supplier of deep water AUVs

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Global presence

- Manufacturing
- Under construction
- Office location
- Satellite station



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Business Challenges

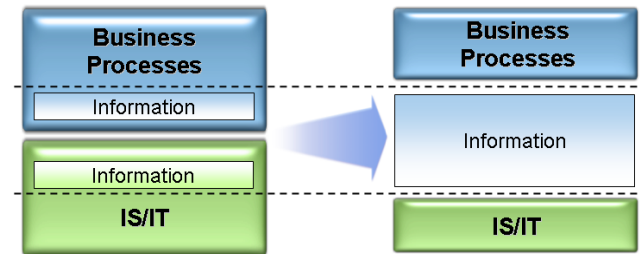
KONGSBERG receive contract data delivery requirements from customers (like U.S. Department of War and other NATO countries), on more than the following standards:

- MIL-STD-1388-2B, MIL-PRF-49506, GEIA-STD-0007, MIL-STD-31000, MIL-STD-130, DEF-STAN 00-600, JSP886, STANAG-2290, STANREC 4782, DEF (AUST) 5692, ISO 10303-21, S1000D, S2000M, S3000L, etc...
- Deliveries of data formats:
 - PDF, EXCEL, STEP, EDI, XML,
- How to handle such challenges?
 - Reflections, ideas to handle....

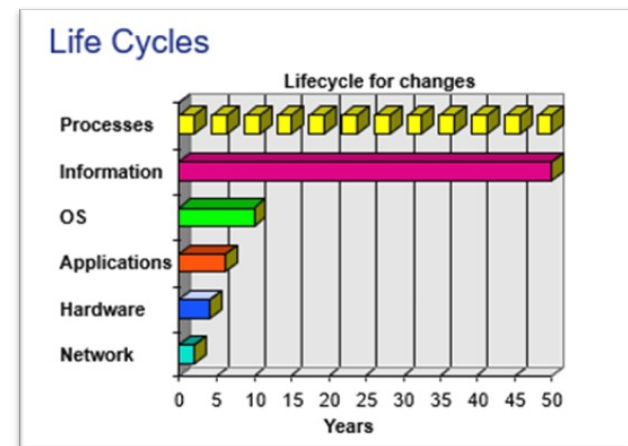


Information handling

- “Operational Excellence is the Pursuit of Knowledge”
 - Collection of knowledge/ data, that is organized, managed and valuable. Classify the information that is valuable, collect it, manage it throughout the lifecycle and have control of access to handling of the information.
- Data-driven process (with security), that allows the organization to perform better decisions, achieve goals and earn more.
- A cultural change, where information in the tools is important.



Source: Eurostep AB



Source: Eurostep AB

Information handling

- Needed configuration control, in all business process steps, from a concept to a product is disposed.
 - Master data information need to be controlled, be handleable and be possible to receive / deliver.
- A system/product is a subject related to information, needed electronically, throughout the whole process (The business ecosystem).
- A Separate system joined as an information hub, with
 - Configuration management, tracing etc.
 - Low initial cost
 - Information control and assurance across the enterprise environment

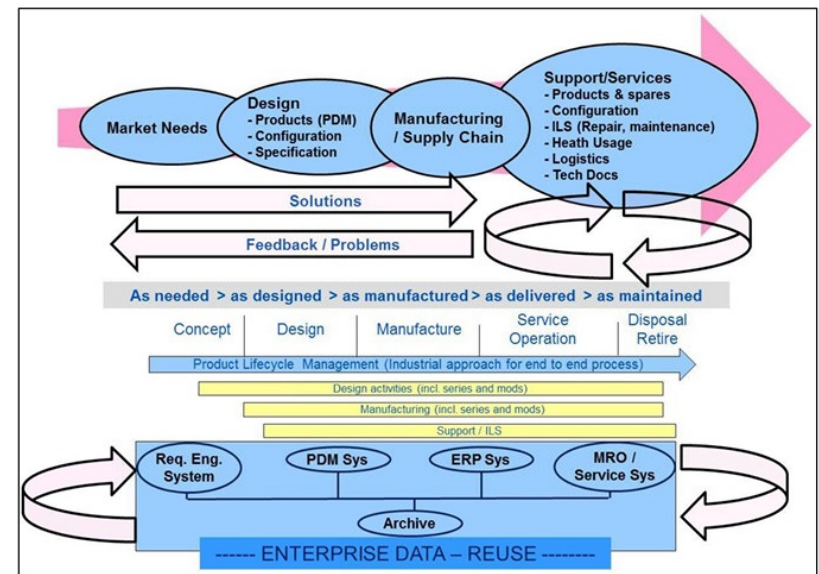
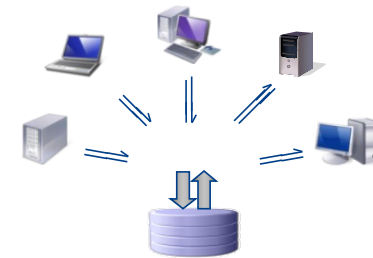
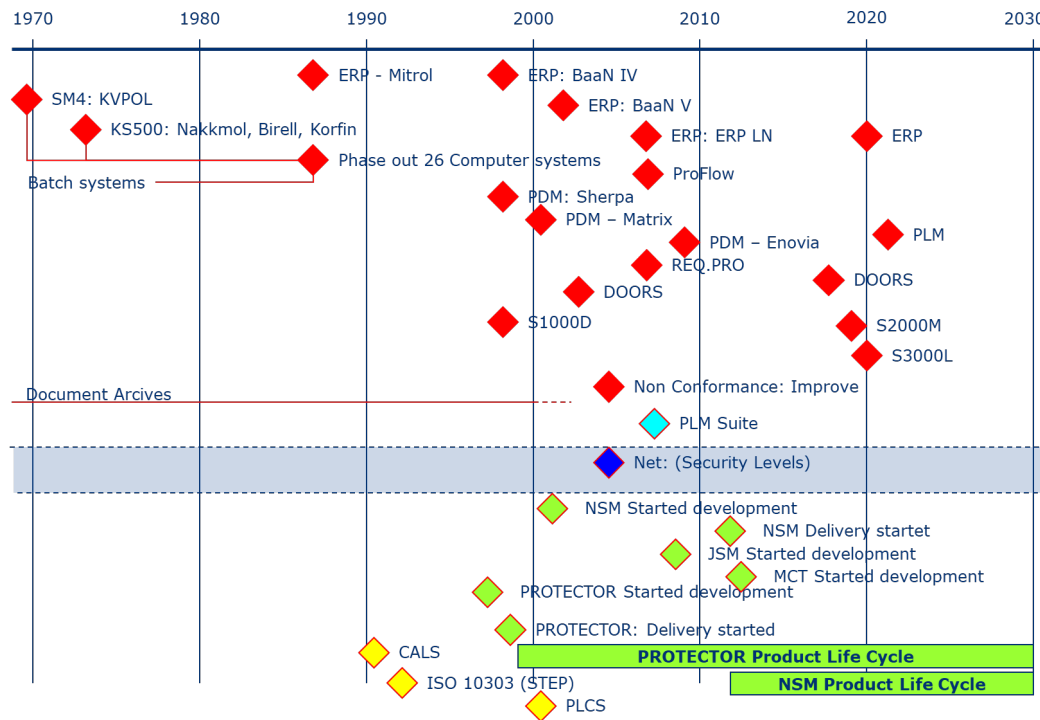


Figure 2: Data explosion through the life-cycle

Source: ASD/TLCI/01

Digital backbones +40 years



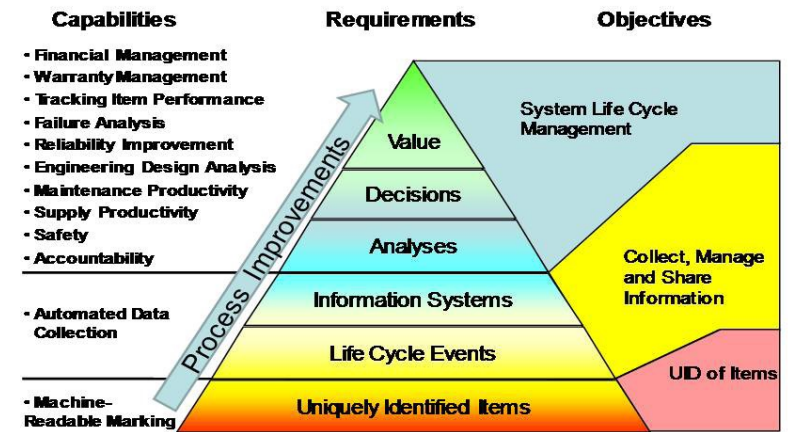
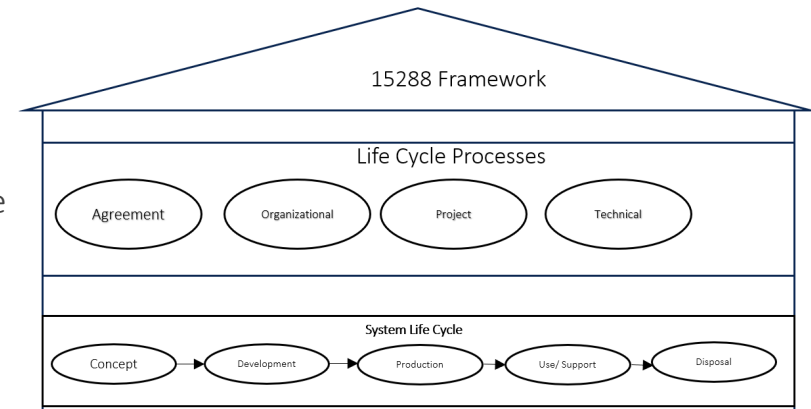
- ◆ Computer systems
- ◆ Security Net
- ◆ Specifications
- ◆ PRODUCTS

Scalable data driven process

- Configuration control according to the process steps, defined in accordance with ISO15288, upon organizational tools;
 - As-Needed/ As-Specified, As-Designed, As-Built, As-Delivered, As-Supported, As-Maintained.

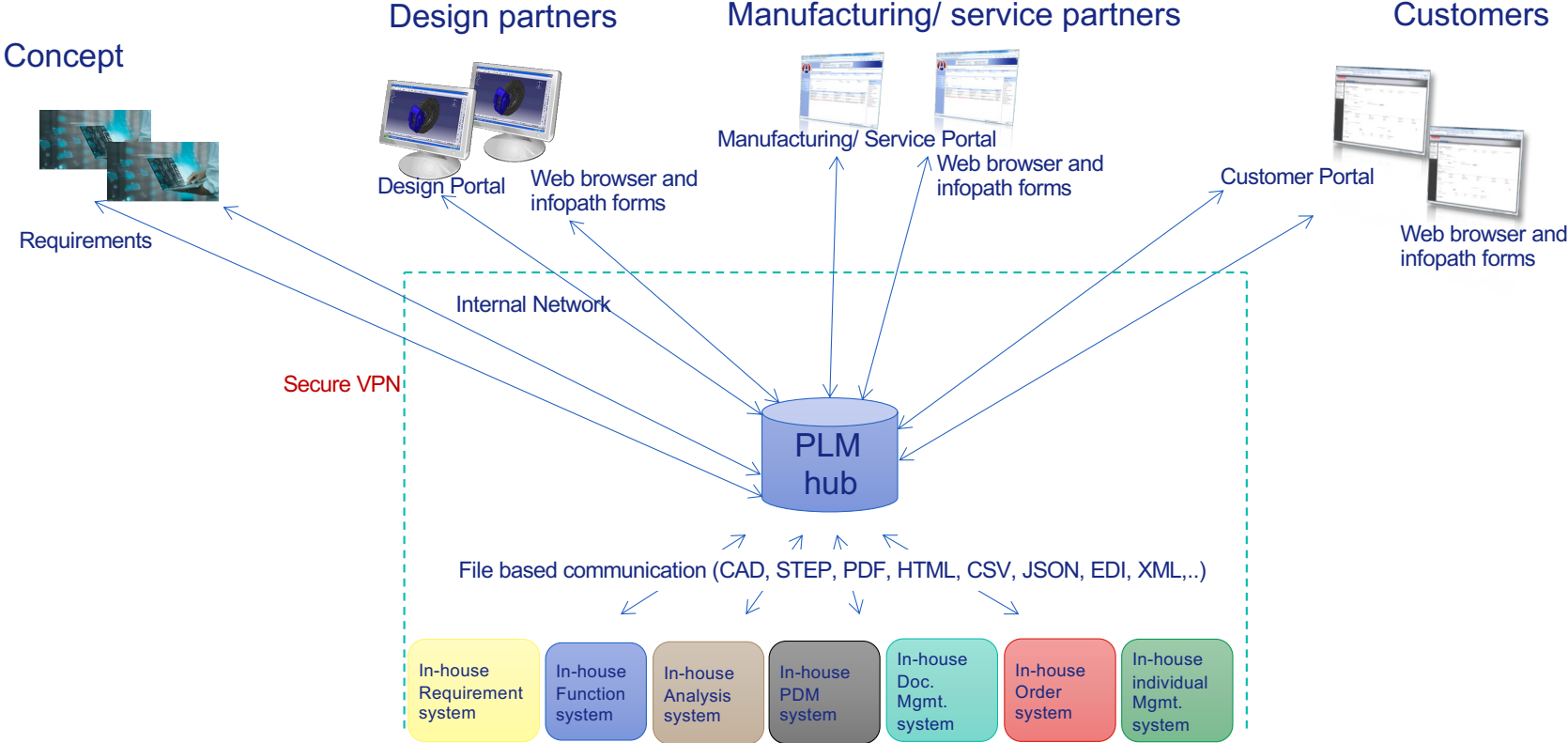
Information need to be:

1. Machine-readable (single source)
2. Automated data collection; collect, manage, share,..
3. Handle all stakeholders perspectives/capabilities, through system lifecycle.



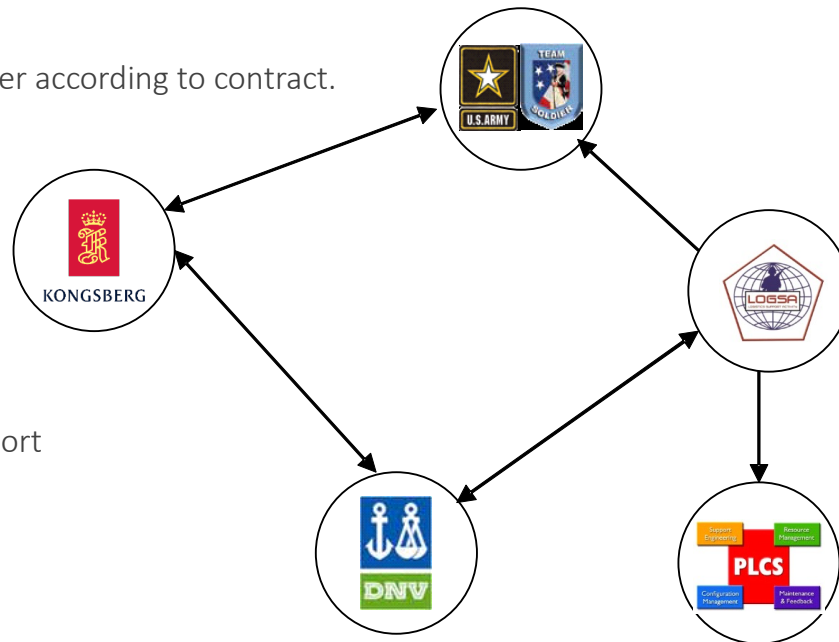
Source: NATO Allied Publication AUIDP-1 Edition 1

Scalable data driven process



Scalable data driven process

- Make it possible to deliver according to contract.
EX: GEIA-STD-0007



Model Based Product Support
(ASD/AIA S-series)

Source: Program-Norway pilot UID (defined in AUIDP-1)

MIL-STD-130/ STANAG-2290

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ISO 29148 / related to ISO 15288

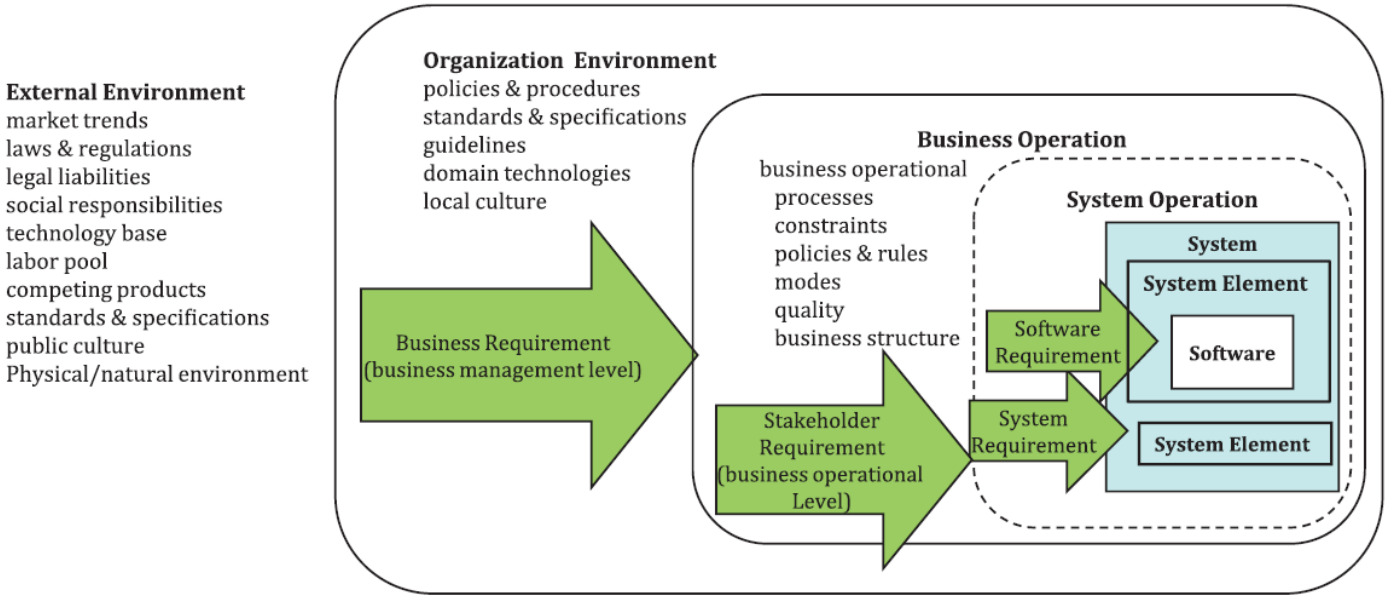


Figure 3 — Example of requirements scope in a business context

Compliance with evolving regulatory frameworks

- Regulations, relate to KONGSBERG as requirement;
 - Agreements, Organizational, Project, Technical
 - Concept, Desing, Production, Utilization, Support, Disposal

| Calculated Compliances | | |
|------------------------|---|-----------------------|
| Compliance Type | Compliance Definition | Product/Process Scope |
| BoMCheck | Battery_Directive_substance_restrictions | Product Only |
| BoMCheck | Other_Regulated_Substances v8.4 | Product Only |
| BoMCheck | POPs_Stockholm_Convention | Product Only |
| BoMCheck | Other_Regulated_Substances_COCIR v8.4 | Product Only |
| BoMCheck | IPC-1752B/Other_Regulated_Substances | Product Only |
| BoMCheck | BOMcheck_PFAS_List | Product Only |
| BoMCheck | TSCA_Section_6(h) | Product Only |
| BoMCheck | IPC-1752B/Other_Regulated_Substances v8.4 | Product Only |
| BoMCheck | Other_Regulated_Substances | Product Only |
| BoMCheck | Prop_65_substances | Product Only |
| BoMCheck | Industry_restricted_and_declarable_substances | Product Only |
| BoMCheck | Other_Regulated_Substances_COCIR | Product Only |
| BoMCheck | IEC_62474_PFAS_List | Product Only |
| Conflict Minerals | US Conflict Minerals | Product Only |
| EL2011/65/EU | EU RoHS | Product Only |
| EL2011/65/EU_ANNEX_IV | EU RoHS | Product Only |
| India-ELV | India ELV AIS-129 (M1) | Product Only |
| India-ELV | India ELV AIS-129 (L1 and L2) | Product Only |
| REACH | Biocidal Products A.2 | Product Only |
| REACH | EU REACH XIV (2022-Apr-08) | Product Only |
| REACH | EU REACH XVII (2025-A) | Product Only |
| REACH | EU REACH XVII (2025-B) | Product Only |
| REACH | Biocidal Products A.3 | Product Only |
| REACH | EU REACH (2025-Jun-25) | Product Only |
| REACH | Critical Raw Materials for Defence | Product Only |
| REACH | Fluorinated GHGs | Product Only |
| REACH | NAS-411 | Product Only |
| REACH | Ozone Substances | Product Only |
| REACH | NAVANTIA Att.IV | Product Only |
| REACH | Mercury Compounds | Product Only |
| REACH | KDA-SL | Product Only |

Reflections - going forward

- Increased focus on supporting customer and delivering greater value.
- Continuous efforts to improve how we work.
- Significant effort is required, but it is a worthwhile investment.
- Without this work, considerably more resources would be needed.
- A key investment has been improving data quality and structured data.
 - To use structure data, is essential for AI.
- This also lays a strong foundation for future use of AI capabilities.





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