

Å lykkes med produktutvikling

Produktutviklerens gleder og sorger

Hvem er vi

- Sven Andersen Highstage
- Ottar Kvindesland Highstage superbruker og konsulent
- Per Reidar Ørke Highstage representant og superbruker

Fellesnevner: Produktutvikling

Å lykkes med produktutvikling - agenda

- Hva er et produkt
- Produktutviklerens gleder og sorger
- Demo – av bedrifter som har oversikt
- Å komme i gang med PLM
- Avslutning
 - Q&A
 - Kontaktpunkter

Ottar Kvindesland

Sven Andersen

Sven Andersen

Ottar Kvindesland

Per Reidar Ørke

Hva er et produkt

Ottar Kvindesland

Er det dette som er produktet ?



Om produktet

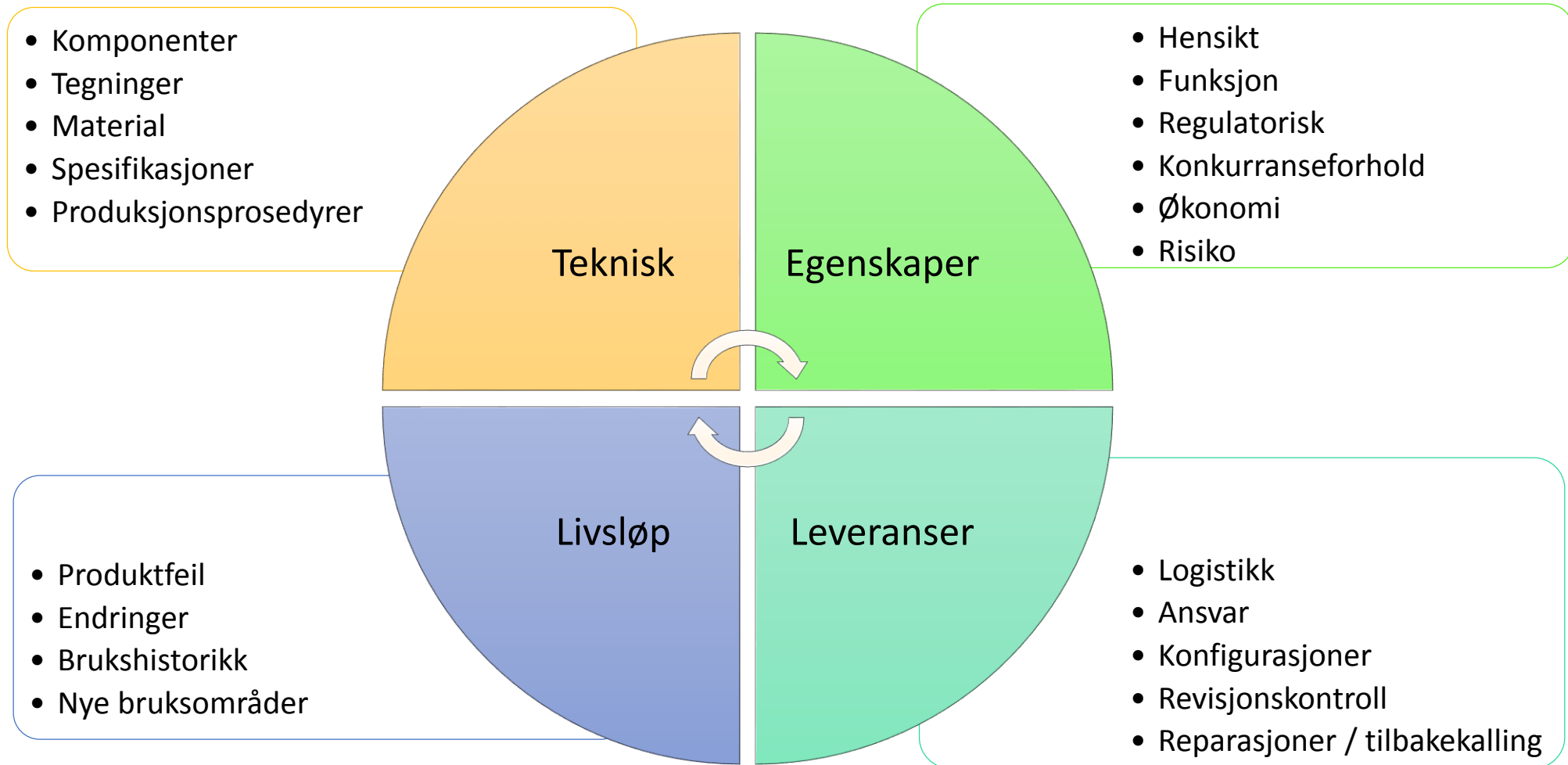
Produktet er all informasjon du trenger for sikkert og på en kontrollert måte fremstille, levere, vedlikeholde og terminere de gjenstander eller tjenester du produserer.

Produktets faser



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Flere fasetter av produktet



Produktutviklerens gleder og SORGER

Sven Andersen



Device industry

Develops, manufactures, markets
Products/devices containing:

Mechanics

Electronics/Firmware

Software

Chemistry/Biology



Examples of products developed with PLM support from Highstage



Industries

- Medical
 - Defense
 - Security
 - Telecom
 - Offshore
-
- (Could as well be food & beverage industry, or service industry)

People comes first!

- Its all about people and interaction between people
- The right people can do magic with few resources.
- People are natural resources and as such limited in capacity.
- Importance of focus.
- People creates systems and processes.

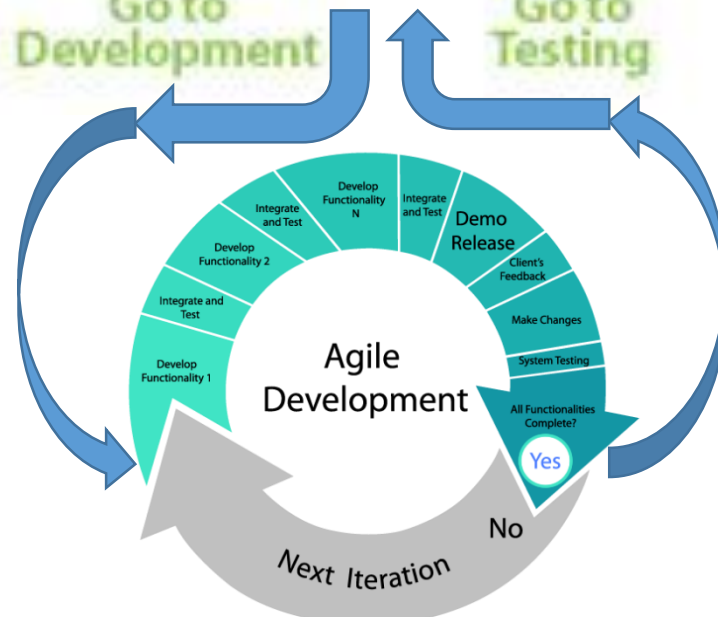
Product innovation process

Stage-Gate® Product Innovation Process



Agility within Stage-Gate process.

Stage-Gate® Product Innovation Process



Processes varies depending on...

- Industry
- Type of products
- High volume standard products or custom tailored
- Size of company
- Background of people

Categories of new products

- New to the world products
- New product lines
- Repositioning's
- Improvements to existing products
- Additions to existing products
- Cost reduction

Customers is a very good source of ideas

- Problem reports
- Feature requests
- Product addition requests
- Build strategic customer alliances

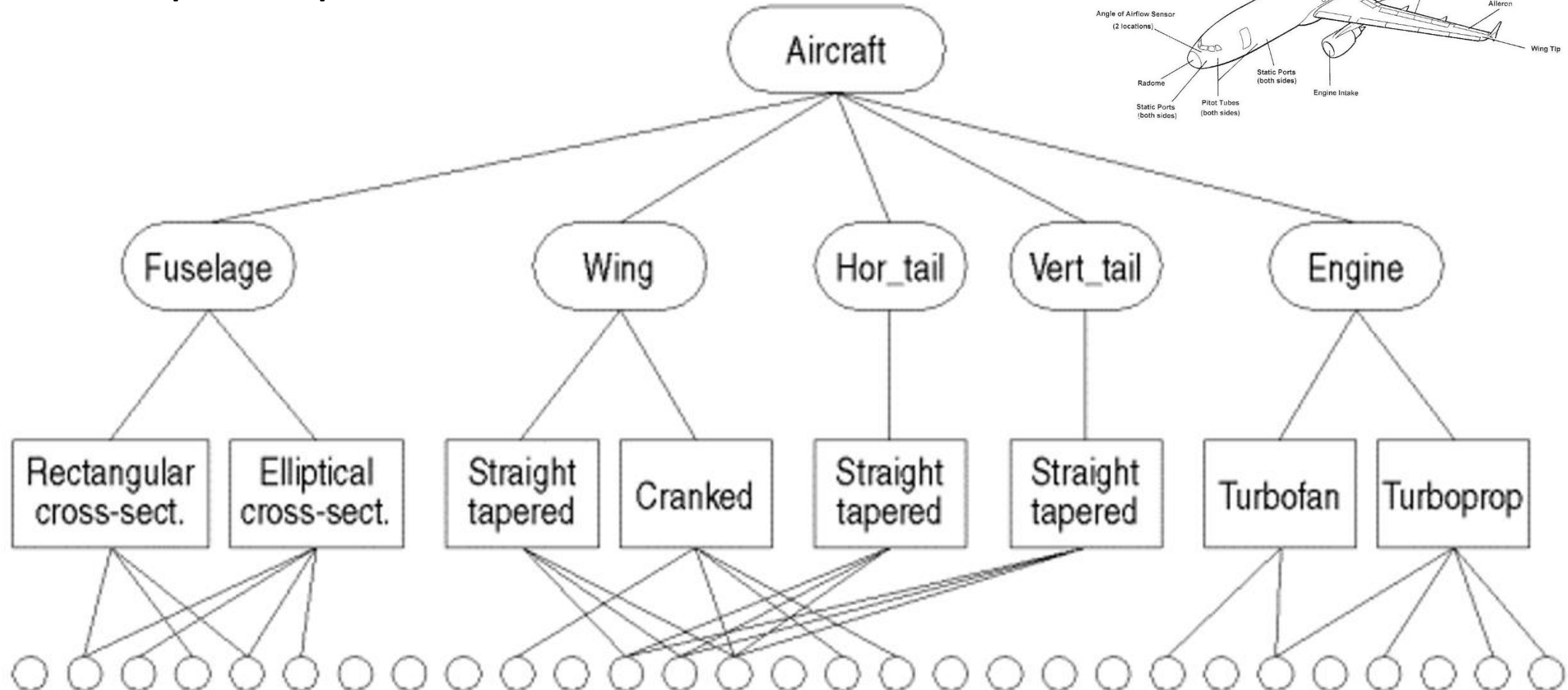
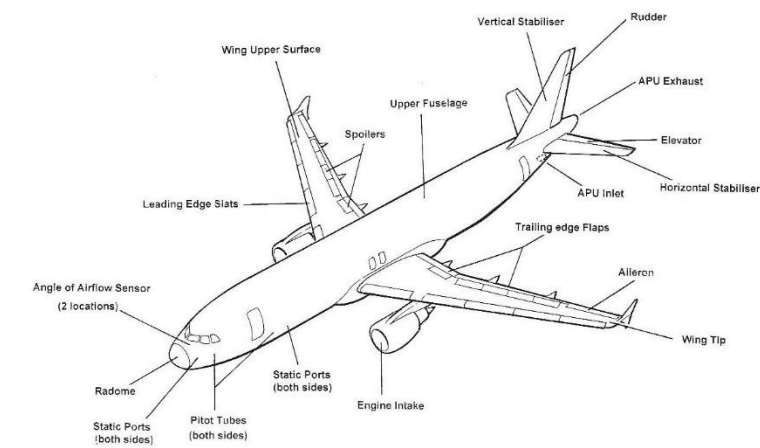
Product manager/Technical Project Manager

- Product manager:
 - Market domain knowledge
 - Defines the product.
- Technical Project Manager:
 - Broad technical experience.
 - Ability to estimate work/risk.
 - Able to read trustworthiness/credibility.
 - Often most "truthful/honest" in organization.
 - Pushes things forward.
 - Goal oriented.

Technical Project Manager (challenges)

- Problems in the organization is focused in one point , TPM.
 - Lack of competencies/resources.
 - Inefficient processes.
 - Unclear goals and change of specifications
 - Insufficient IT systems
 - A variety of independent IT systems throughout the process.
 - File servers
 - Emails
 - Excel/Access
 - ERP system(s)
 - Problem/bug reporting system
 - Document management system (with documents checked out?)
- TPM has lots of responsibilities, but not as much power in organization.
- Been there done that...

Complex products



Complex processes and product life cycles

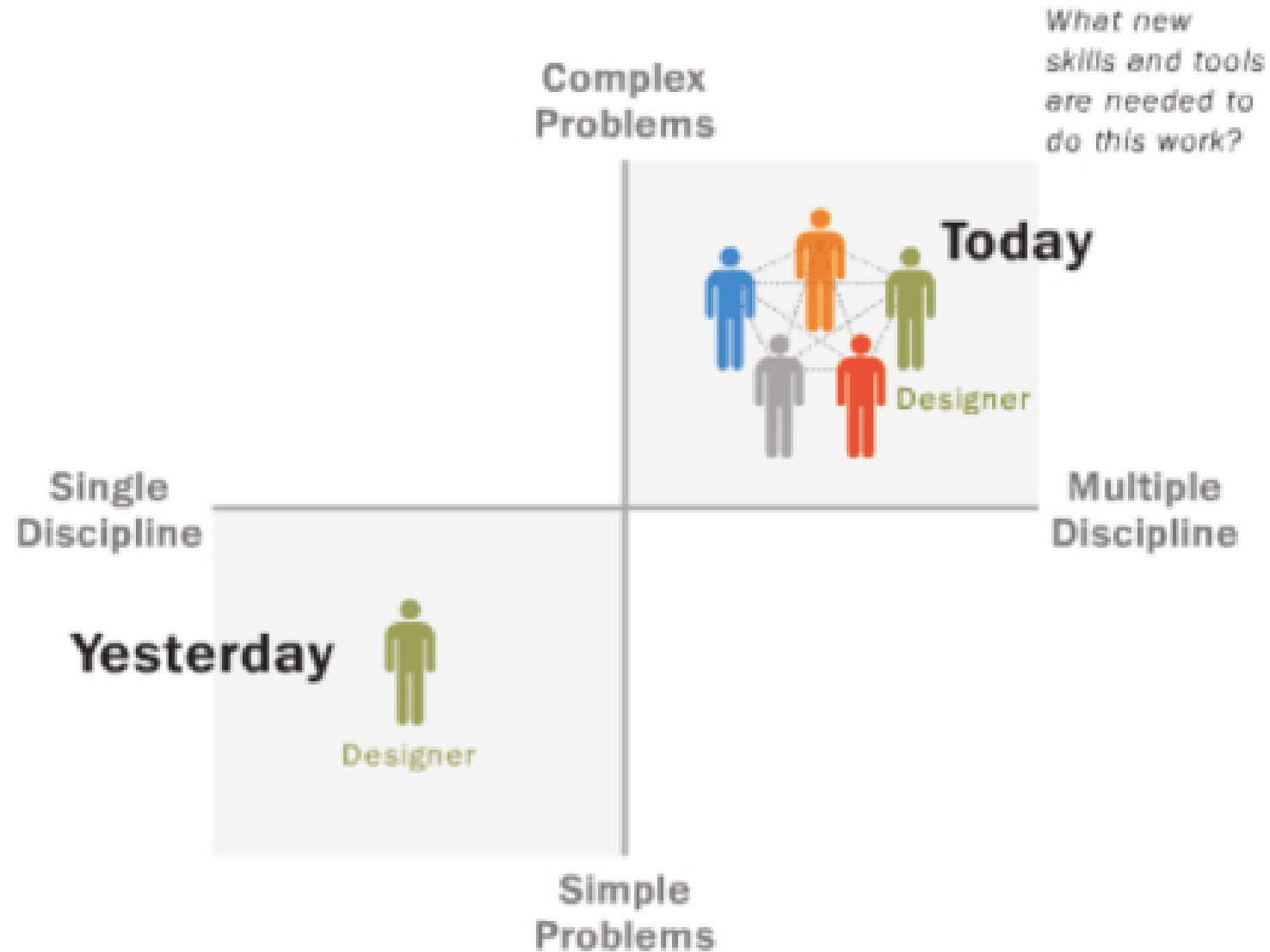


Regulations from authorities

- ISO
- FDA (U.S. Food and Drug Administration)
- Other industry specific regulations

- Quality audits from authorities
 - May stop sales
- Quality audits from customers
 - May stop orders

Cross disciplinary distributed teams



Global competition

- Customer don't wait for delayed product if alternative is available.
- Customer wants the best price and/or best product.
- Winner(s) takes most of the market.

A good system is required to be competitive

- PDM (Product Data Management)
- PLM (Product Lifecycle Management)
- According to the 2011 Apparel/Gartner PLM report, reducing development time by up to 30 percent.
- A good system fits the organization like a 'glove'
- Minimum performance drop-out during implementation.
- Return on investment very fast, each and every employee gets more energy back from the system than they put in.
- Platform for growth – positive and negative



ERP is not PDM/PLM

- All the details are not in ERP, only down to lowest purchase level
- We may have different ERP systems, for example for subsidiaries in other country, or at supplier. The source is the PDM/PLM system.
- ERP users may change product structure.
- ERP system may not have all the history.
- ERP system do not have all the details like specifications, engineering source files, validation reports, contracts etc.

There is no silver bullet!

- Accept that PDM/PLM is complex
- There is no one solution that fits every company
- Difficult to make decision
 - All systems are wrong from some perspective
 - Difficult/impossible to quantify the exact contribution to bottom line result
- Just do it!
 - Leadership required
 - Involve people, be humble, go for consensus if possible
 - Have big vision, start small, ensure success before continuing

Benefits of a good system?

- Survival/Success
- Quality of work life
 - Welfare
- Quality of life

Å komme igang

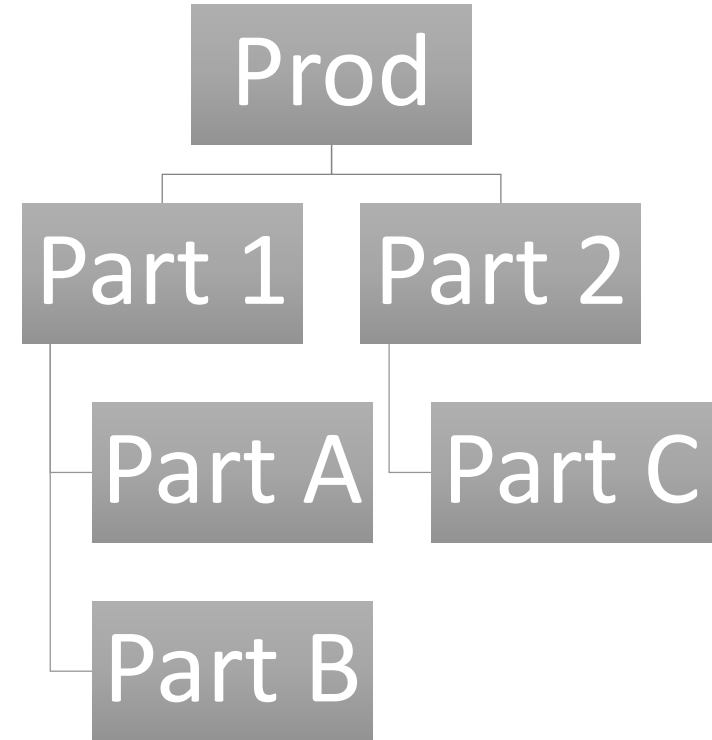
Ottar Kvindesland

For ordens skyld ...

- HighStage er et verktøy for produktrettede selskaper
- Det er enkelt å sette opp – kan brukes rett ut av boksen
- Implementasjon uten drop-outs i performance (eller tvert om, positive performance økonomi)
- Du får det du spesifiserer – tenk deg om når du planlegger
- Ikke bit over mer enn du makter å bruke
 - Legg resten av ambisjonene i vegkartet
- Verdien skapes når dine kolleger finner det nyttig!
- Godt verktøy er halve jobben, 100% kontroll fås kun med egen innsats.

Fase 1: Design BOM

- Start her
- For parter:
 - Tegning i PDF og CAD
 - Spesifikasjoner og dokumenter
 - Kritiske egenskaper og funksjoner
 - Mottakskontroll
 - Manualer
 - Konfigurasjon
 - Annet?
- Få opp strukturen først. Rydding og påfyll kan tas senere



Bruk eller tilpass

– Part SW103-1A [**default**]

Item	SW103-1A
Alias	
Revisions	
Status	Working
ItemType	SW
Workspace	COMPANY
Author	OK
Reviewer	
Approver	
CopyTo	
Description	Standard HighStage templates
Change Note	
UseStatus	

Standard



HIGHSTAGE

– Environmental data

rohs	0
leadfree	0
IsCatalogue	0
IsSpare	0
IsOption	0
Alias	

– Sub parts

<i>Mechanical Component</i>	+ Part/MC [0]	create	add	page
<i>Software Component</i>	+ Part/SW [0]	create	add	page

+ Documents

<i>Supplier</i>	+ Supplier [0]	create	add	page
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+ Actions and tasks

Tilpasset



Fase 2: Kontroller fremdrift og status

- Aksjoner defineres for ulike oppgaver. F.eks:
 - Produktforbedringer (BOM Management)
 - Salg, Leveranser
 - VO
 - Avvik
- Implementasjon av en spesifisert aksjon: 1 – 2 timer
- Ferdig prosess kan allerede være på plass i bedriften

– Action NONCON1001 [default]

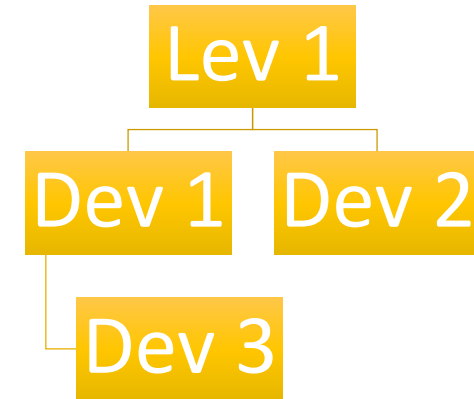
								
Identify	Immediate Action	Decide	Implement	Complete	Verify	Close	Verify	Close
OK	OK	2015-03-20	PRO		PRO			2015-03-24

Title Middagen ble svidd

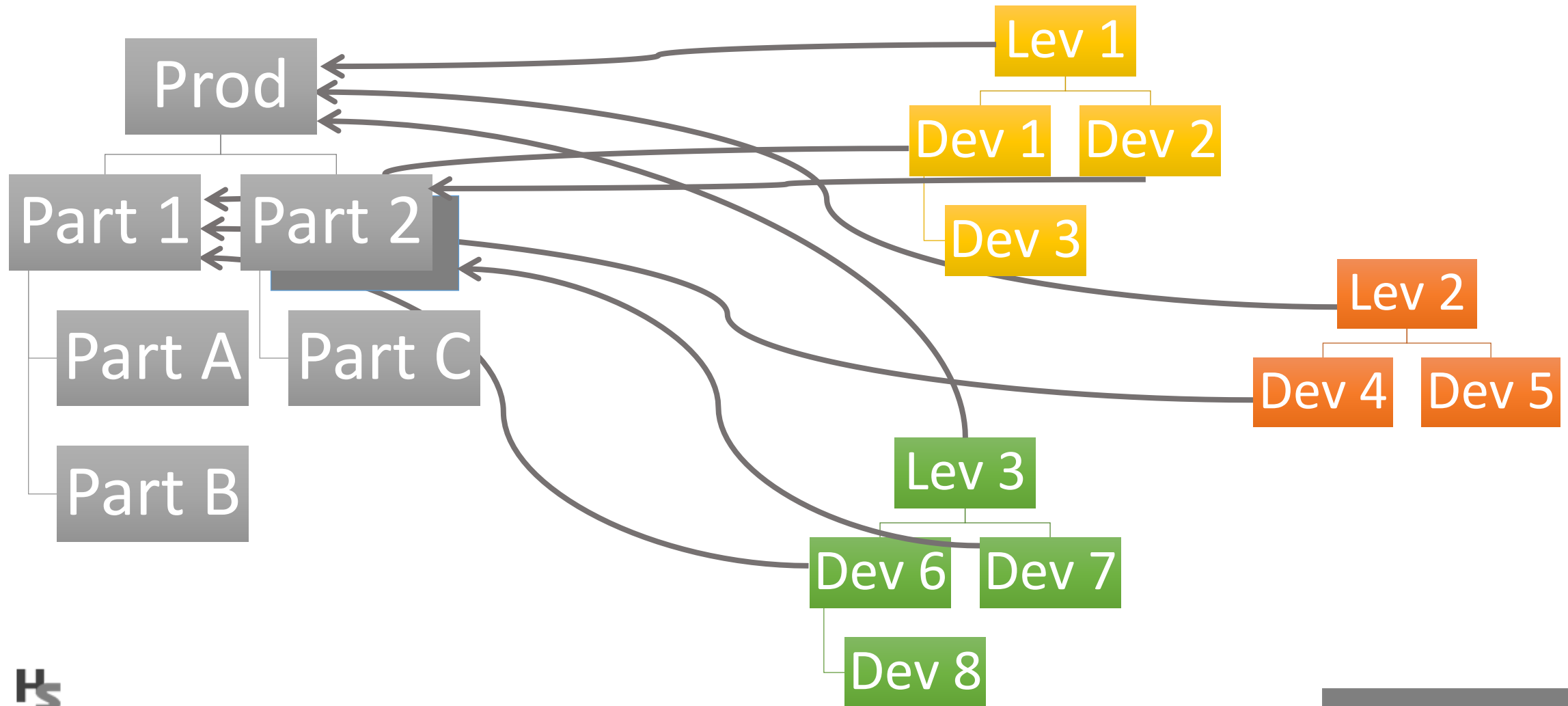


Fase 3: Levert system

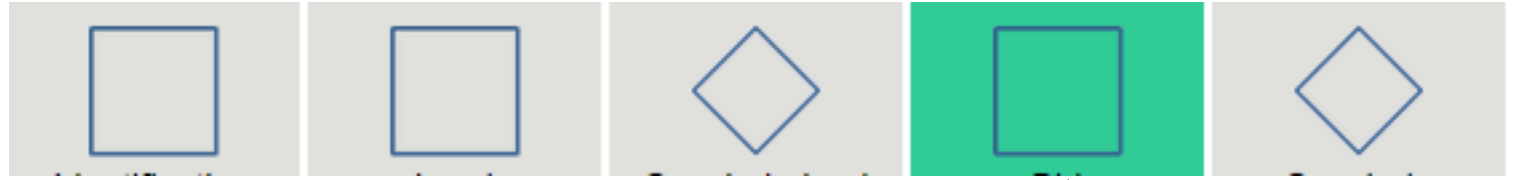
- Bruk design BOM som mal
- Knytt device mot relevante parter:
 - SN
 - Oppsett
 - Leverandør
 - Garanti utløpsdato



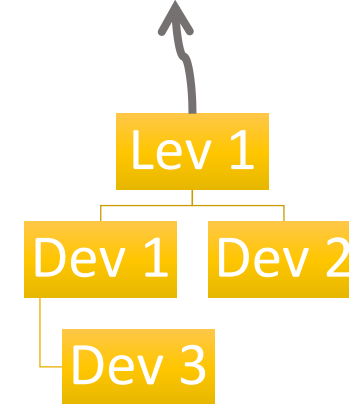
Design og leverte systemer



Link leveransen inn i prosessen



- Spor tilbake historikk fra:
 - Salgsprosess
 - Installasjonsprosjekt
 - Lvert utstyr
 - Design i relevant konfigurasjon
 - Tidligere supportsaker
- Hold kontroll!



Menneskelige faktorer

- Utfordringer:
 - System krever disiplin og skaper orden
 - Mennesket er omtrentlig
 - Hvorfor må vi arbeide så rigid?
- Bruk tid på opplæring og støtte
 - Brukere må ofte ha assistanse for å forstå strukturen
 - Fordelene med kontroll forstås ikke før man har det
 - Noen ganger gjør det vondt å endre gamle arbeidsmetoder
- Modenhet og vilje
 - Suksess kommer gjennom ledelse og øvelse
 - Konkurrenter: Google, disker og e-mail
 - PLM er ikke et produkt, det er en kultur i bedriften og i DNA'et til alle medarbeidere

Avrunding

Per Reidar Ørke

Stålkontroll – eksempler fra lokale firma

CUBILITY

You are running as AdminRead

MCP103-1A MudCube Part for MUDCUBE UNIT

Tree-View. 135 rows. Export Advanced

Find: Only simple text searching supported (like browser find on page). Press ENTER to search.

	Type	Object	Subtype	Title	Status/Step
1	Document	COC14487-1B	Certificate of Conformity/compliance	MUDCUBE - CE CERTIFICATE OF CONFORMITY	Working
2	Document	DAS14337-1C	Datasheet	MUDCUBE UNIT - SUPPLIER COMPONENT DATASHEET	Working
3	Document	DAS14556-1	Datasheet	MUDCUBE - PRODUCT SPECIFICATION	Approved
4	Document	DAS14640-1	Datasheet	MUDCUBE UNIT	Approved
5	Document	DRW10209-1	Drawing	MUDCUBE - SYSTEM DIAGRAM	Approved
6	Document	DRW10210-1	Drawing	MUDCUBE UNIT - 3D MODEL (snapshot from IKM Haaland 01.07.2014)	Approved
7	Document	DRW10258-1	Drawing	MudCube Unit Assembly Instructions	Approved
8	Document	DRW10318-1	Drawing	MUDCUBE UNIT - GENERAL ARRANGEMENT RIGHT VERSION	Approved
9	Document	DRW10319-1	Drawing	MUDCUBE UNIT - GENERAL	Approved
10	Document	DRW10367-1A	Drawing		
11	Document	FAT14571-2	Factory Acceptance Test		
12	Document	FAT14732-1	Factory Acceptance Test		
13	Document	IOM14966-1D	Installation, operation and maintenance manual		
14	Document	MRB14733-1	Manufacturer Record Book		
15	Document	PS14691-1	Part specification		
16	Document	RPT15221-1	Report general		
17	Document	RPT16250-1A	Report general		
18	Part	MCP104-1	MudCube Part		
18.1	Document	PS15421-1	Part specification		

CUBILITY

You are running as AdminRead

100325 Engineering Change for Replace pneumatic vibrators with electrical vibrators.

Action 100325 [default]

1 ECO request

3 Feasibility

4 Kick off

5 Develop

7 Verify

8 Approve

9 Implement

11 Close

ECO number 100325

ECO request description Replace pneumatic vibrators with electrical vibrators.

Type ECO

Workspace DEVELOP

Priority 2

Drilling SOLUTIONS

ELCDS001-6A Selleable software packages in the eLCDS

Tree-View. 48 rows. Export

Find: Only simple text searching supported (like browser find on page). Press ENTER to search.

	Type	Object	Subtype	Title	Status
1	Part	LIB000-2	Library for holding documents	eDrilling Product definitions	Approved
2	Part	LIB001-4	Library for holding documents	eDrilling User documentation	Approved
3	Part	LIB002-2	Library for holding documents	eDrilling Promo documentation	Approved
4	Part	LIB003-7A	Library for holding documents	eDrilling Software Modules	Working

Drilling SOLUTIONS

100325 Engineering Change for Replace pneumatic vibrators with electrical vibrators.

Action 100325 [default]

1 ECO request

3 Feasibility

4 Kick off

5 Develop

7 Verify

8 Approve

9 Implement

11 Close

ECO number 100325

ECO request description Replace pneumatic vibrators with electrical vibrators.

Type ECO

Workspace DEVELOP

Priority 2

References

Medical & bioscience



HIGHSTAGE

Telecom



Software



Electronics



Oil&Gas + Utilities



Avrunding

- Q&A

- Kontakt

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