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Methods in Early Product Development

Kalevi “Eetu” Ekman

Saurabh Deo

Pekka Pokela

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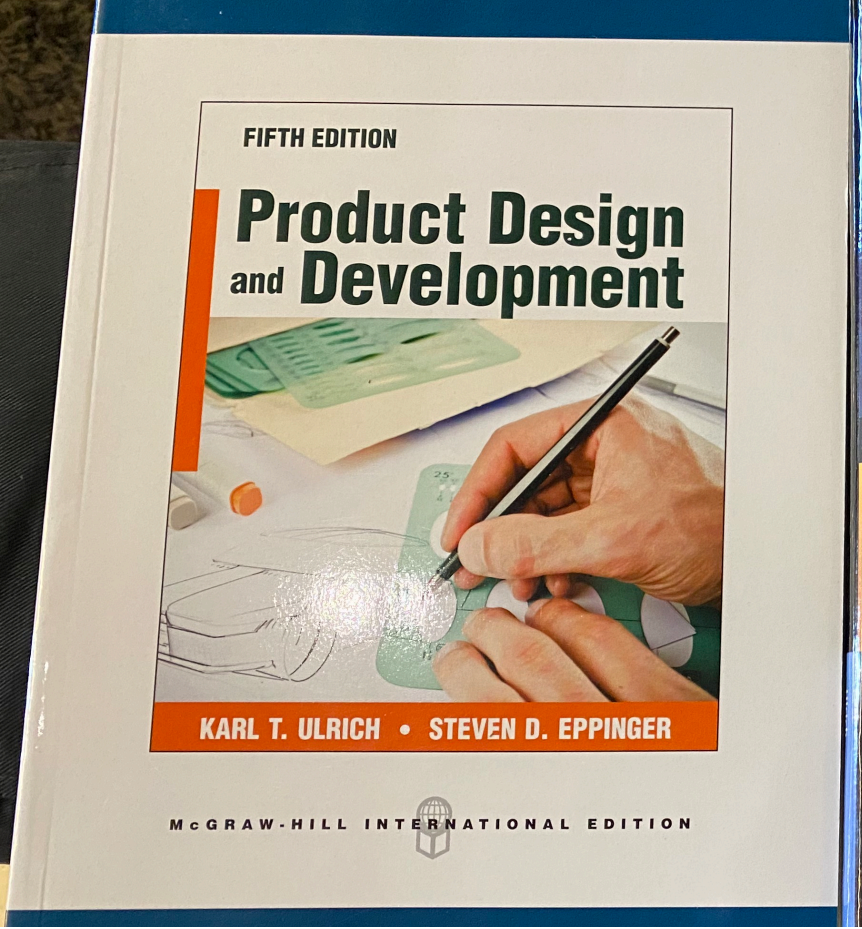
FIFTH EDITION
Product Design and Development
KARL T. ULRICH • STEVEN D. EPPINGER
McGRAW-HILL INTERNATIONAL EDITION


nest
21
SIXTH EDITION
PRODUCT DESIGN AND DEVELOPMENT
Karl T. Ulrich | Steven D. Eppinger
Mc Graw Hill Education

05.09.	Introduction. Processes and organizations.	
07.09.	Managing projects. Opportunity identification.	
12.09.	Identifying customer needs.	Team 1
14.09.	Product specifications.	Team 2
19.09.	Concept generation.	Team 3
21.09.	Concept selection.	Team 4
26.10.	Product architecture.	Team 5
28.10.	Industrial design.	Team 6
03.10.	Design for environment.	Team 7
05.10.	Prototyping and testing.	Team 8
10.10.	Design of services. Intellectual property rights.	Team 9
12.10.	Wings of change.	Team10

Tutoring meetings with Pekka Pokela

Tuesday	12.9.	10.00-10.45
Monday	18.9.	16.15-17.00
Thursday	21.9.	16.15-17.00
Friday	22.9.	15.45-16.30
Tuesday	26.9.	15.45-16.30
Friday	29.9.	15.45-16.30

R&D aspects

- Size of the company
- History
- Regulation
- Complexity
- Geographics
- Volumes
- Investments


Powerkiss
pdp
2009-2010
Product Development Project
Showroom
Wireless World 2.0

POWERKISS INTRODUCTIE

Het is nu mogelijk om draadloos uw telefoon, I-Pad, Notebook of ander apparaat op batterijen op te laden.

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PowerKiss


75% Charged


Wi-Fi & SERVICES
Wi Fi
POINT CAMERA
SCAN HERE
aircharge


100 %
Warp Charge

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SAFERA
SAFETY WITH STYLE

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SAFERA
SAFETY WITH STYLE

Portable Measurement Device

Develop the next generation measurement platform for Vaisala environmental measurements – humidity, dewpoint, temperature and CO_2

- What are features of an inspirational and state-of-the-art product that stands out from the competiton?
- How to tolerate harsh conditions and withstand wide operating environments?
- How to connect to other Vaisala instruments and end user data collection devices?
- Demonstrate the key features, user interface concept and connectivity with a working prototype

Desired skills

- Mechanics design
- Software design
- Electronics and data comm.
- Industrial and UI design
- Interest in manufacturability, simplicity in design and environmental measurement technologies

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VAISALA


VAISALA
OK
VAISALA

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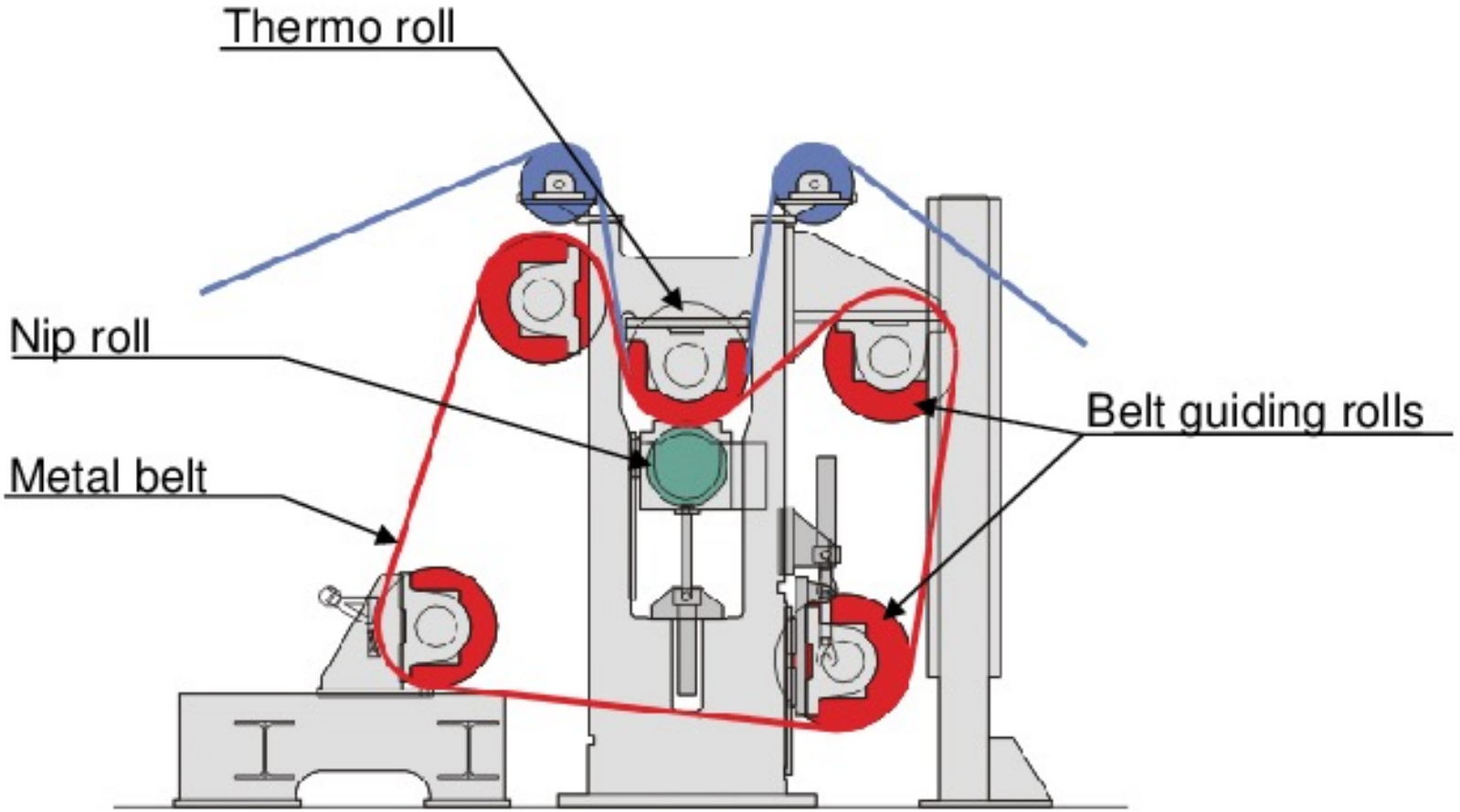
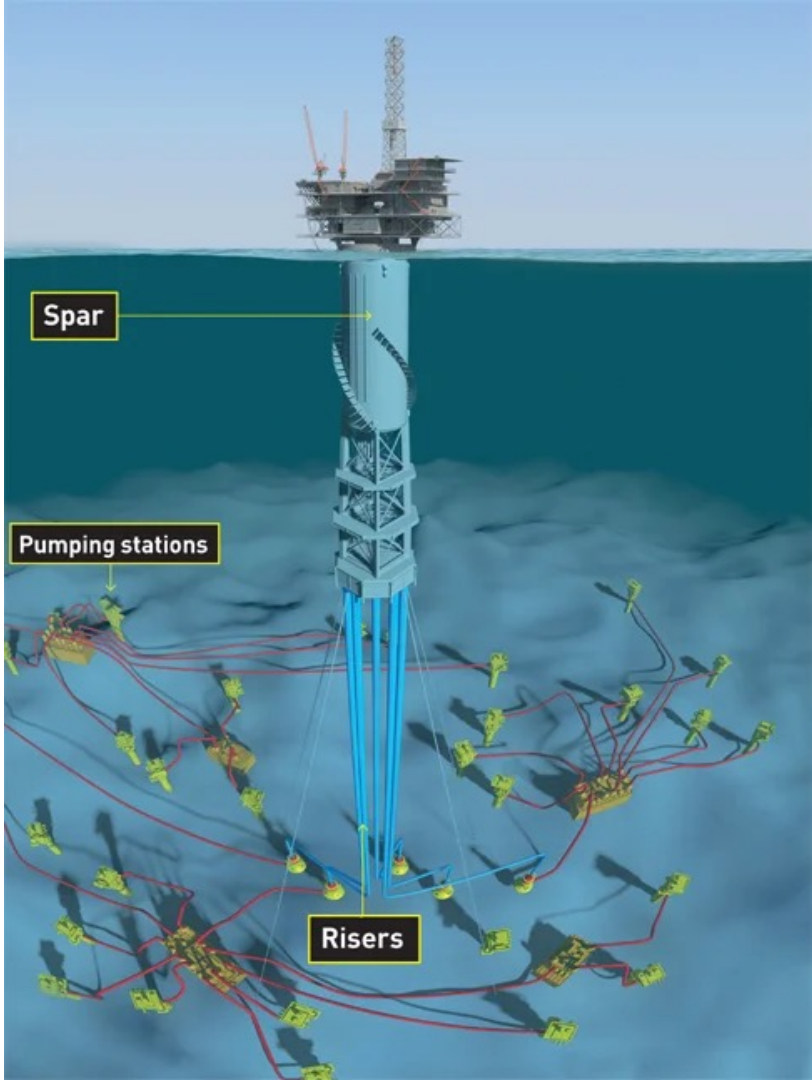
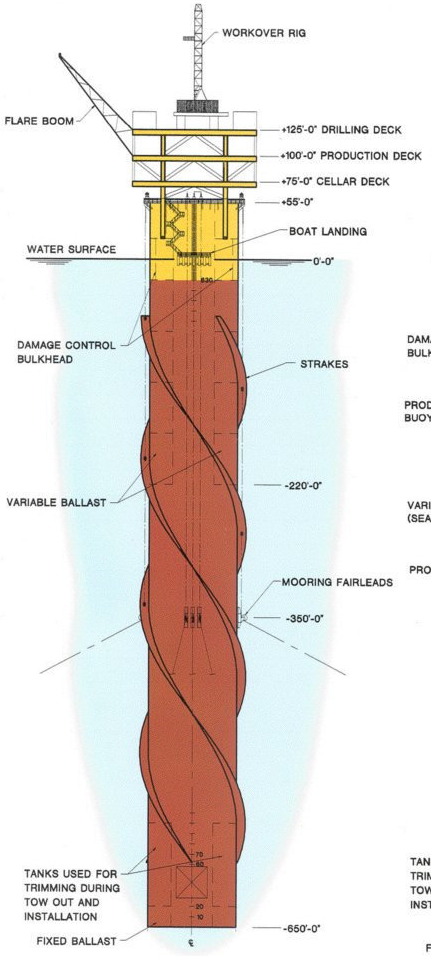
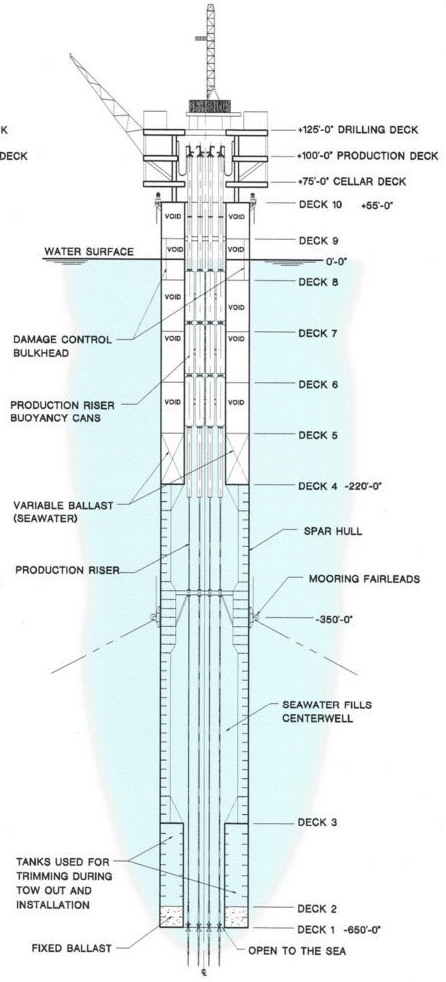

Thermo roll
Nip roll
Metal belt
Belt guiding rolls


Spar
Pumping stations
Risers



OUTBOARD PROFILE
CLASSIC SPAR - STEEL HULL



INBOARD PROFILE
CLASSIC SPAR - STEEL HULL

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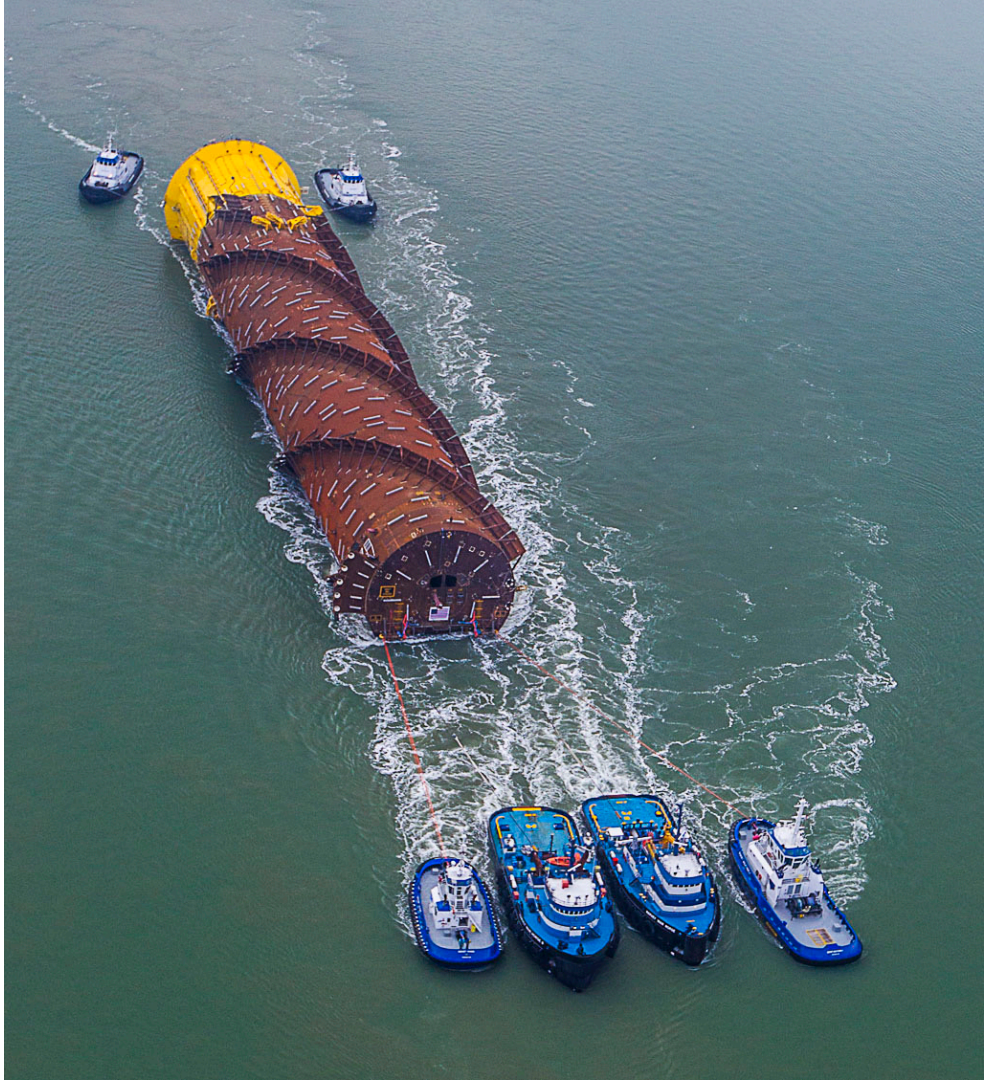

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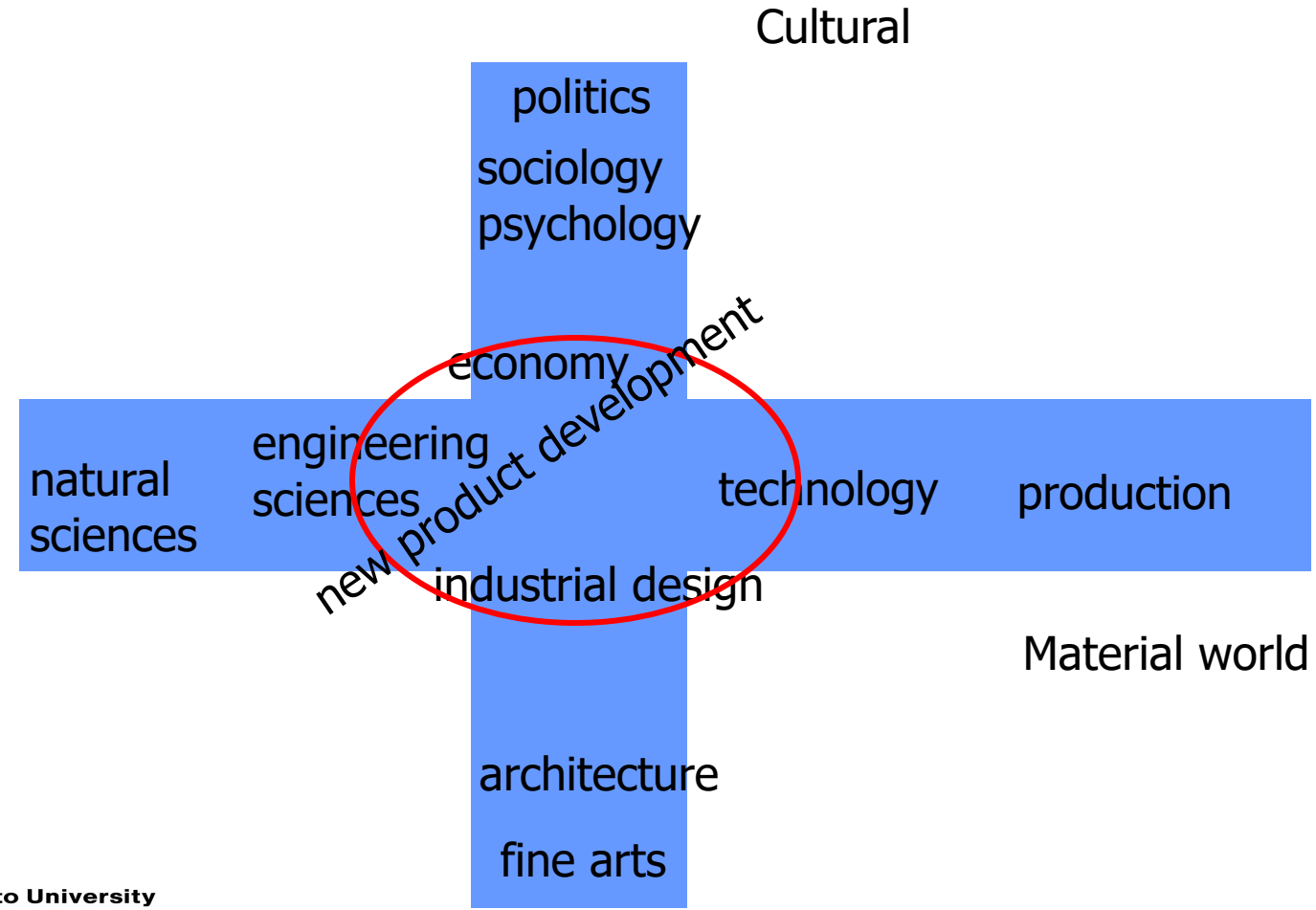
need for processes



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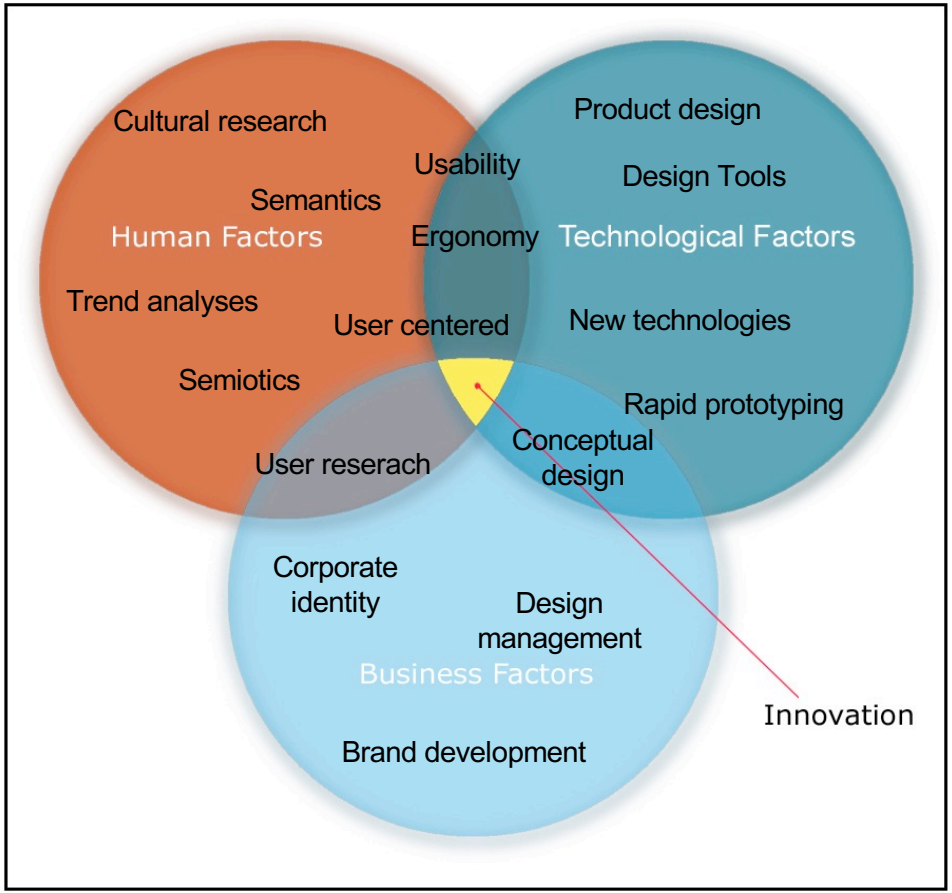
source: Penny, R.K.

need for processes



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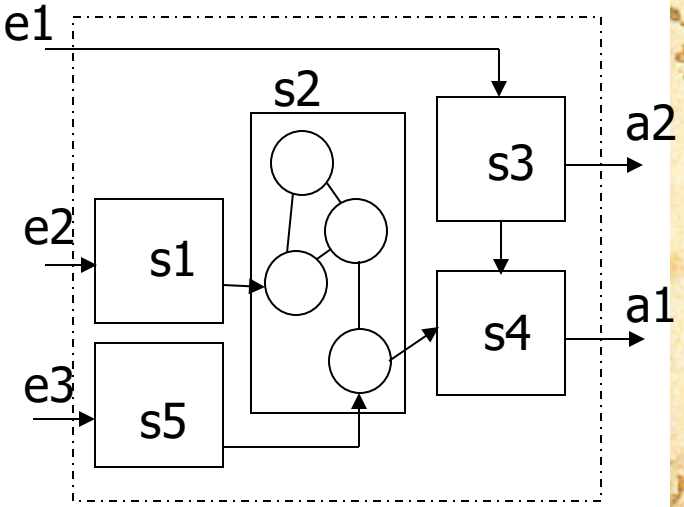
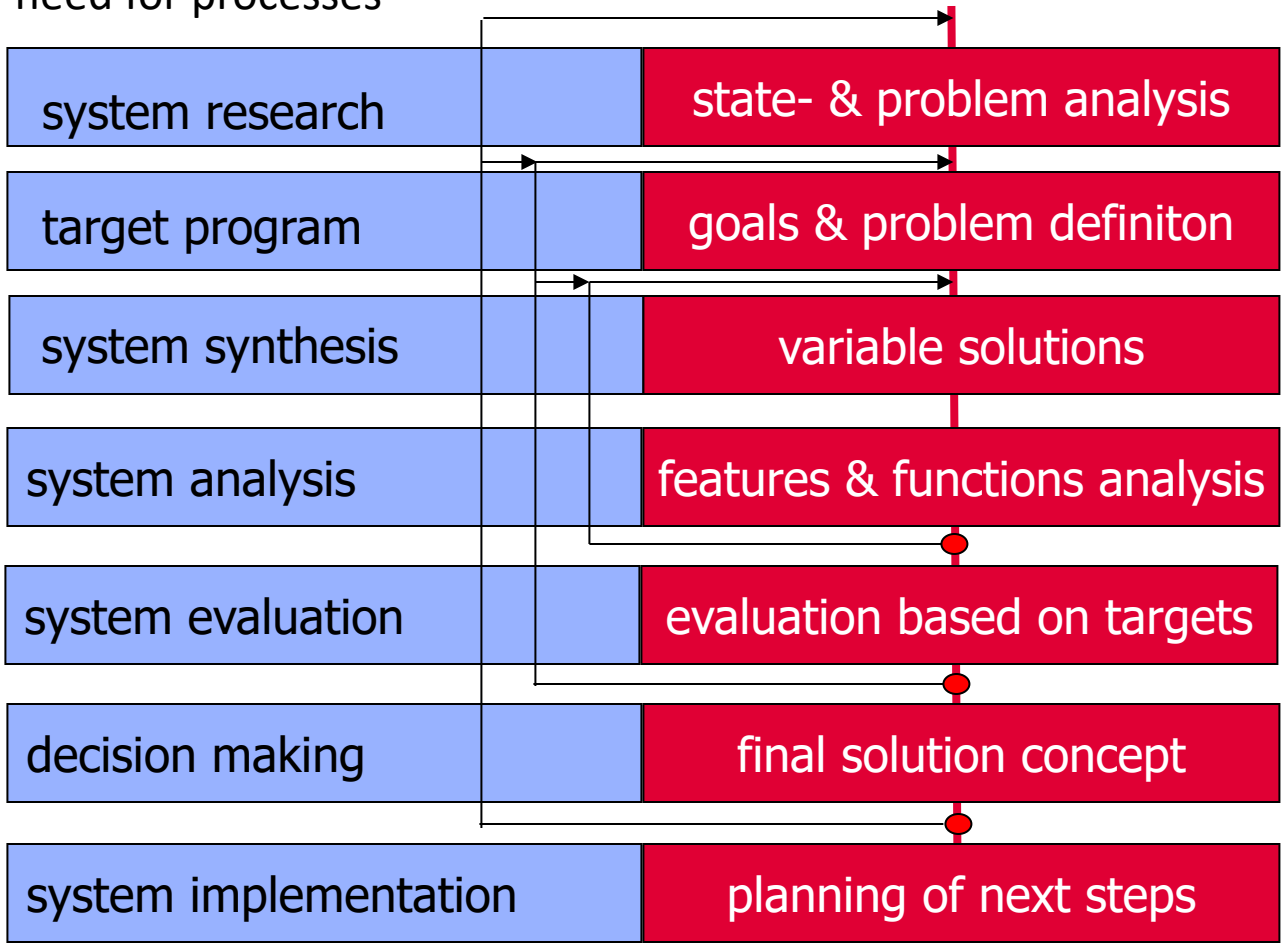
source: TEKES

need for processes

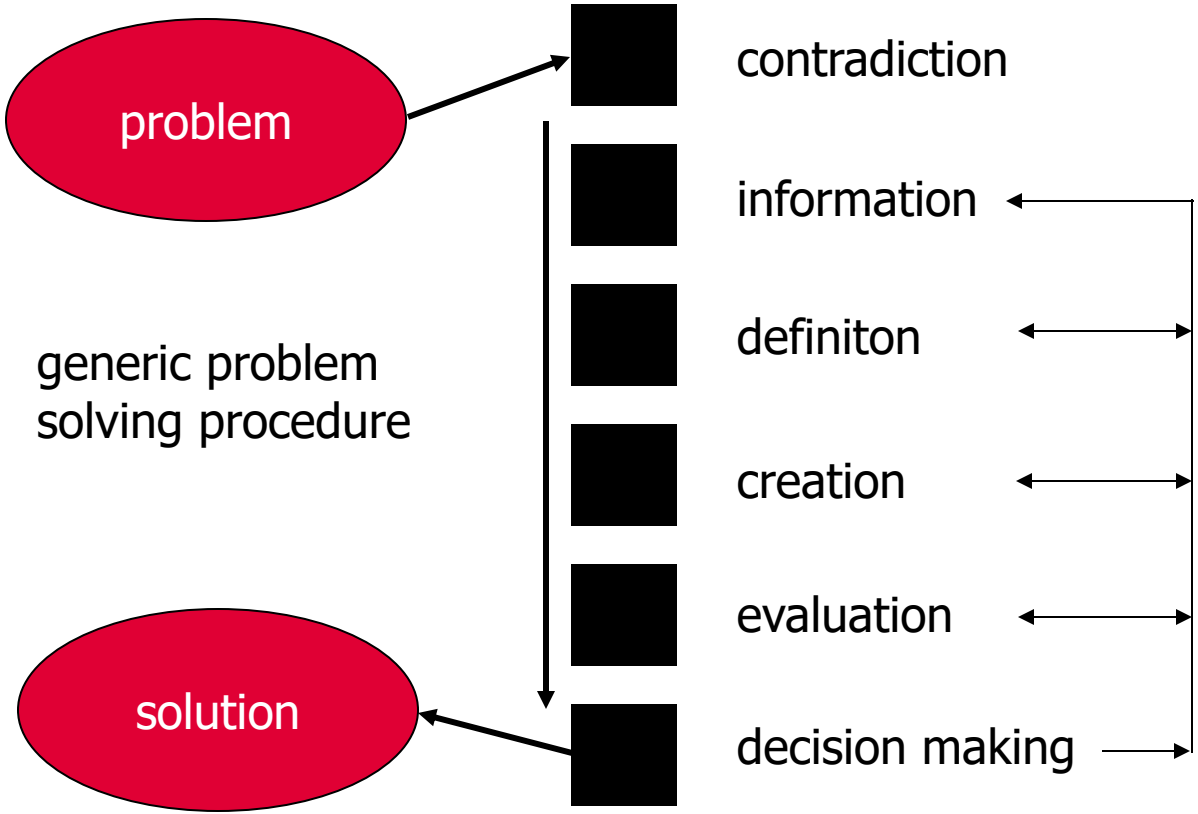
start of methodological design
- Leonardo
- Engpass Konstruktion
- Systems approach



need for processes



need for processes



good process

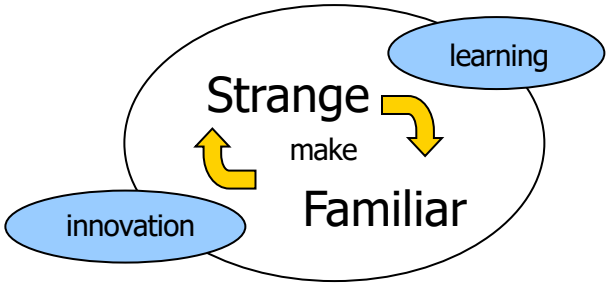
- problem oriented
- promote creativity, inventions, new ideas
- fit to terms, methods and ideas of other sciences
- create solutions which are not precarious
- should be applied easily to similar problems
- should fit to computer aided work
- can be teached and learned
- should follow the principles of work sciences
  - -make working easier
  - -save time
  - -decrease number of mistakes
  - -increase interest to work

where do ideas come from

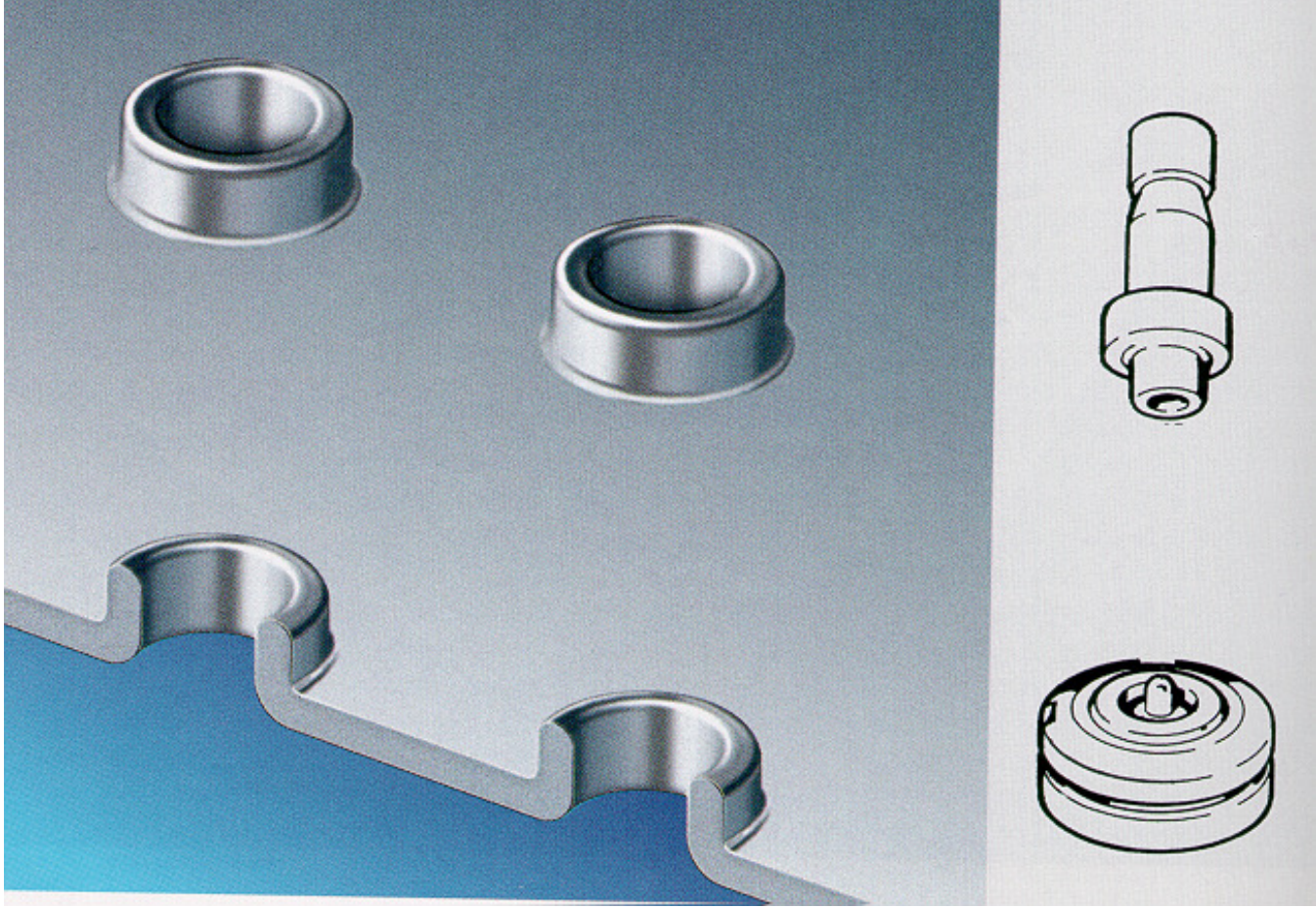
"good players have luck"

"chance favours prepared mind"

" invention is 1% inspiration and 99% perspiration"



where do ideas come from

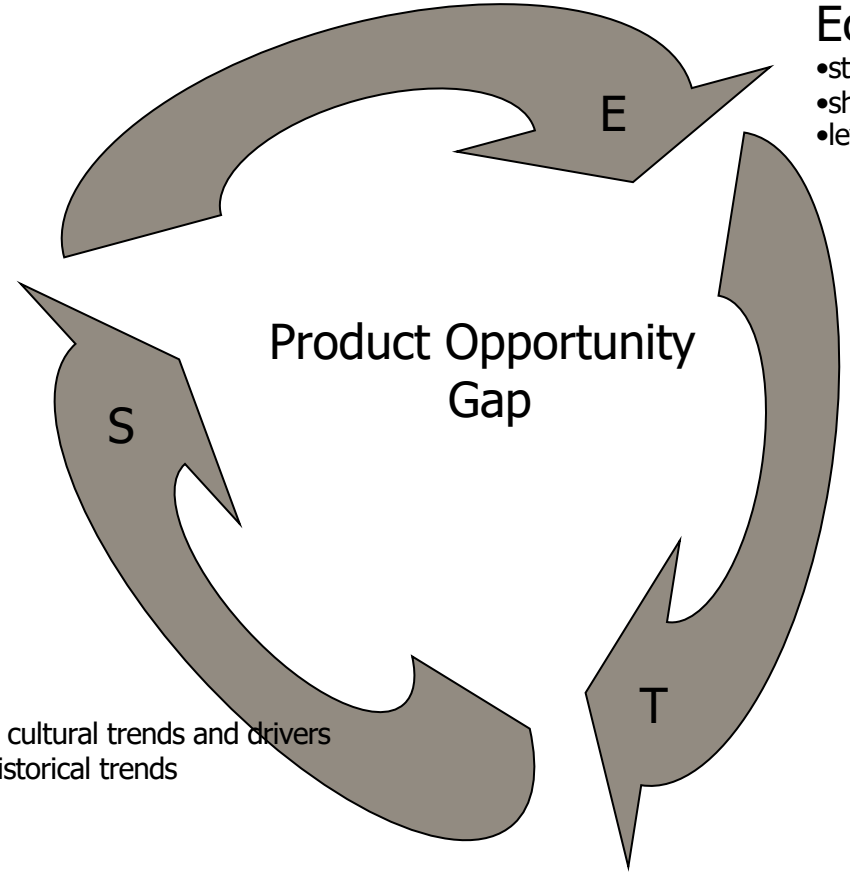


where do ideas come from

nature

- honeycombs / sandwich structures
- velcro tape
- mechanisms
- robots

creating breakthrought products



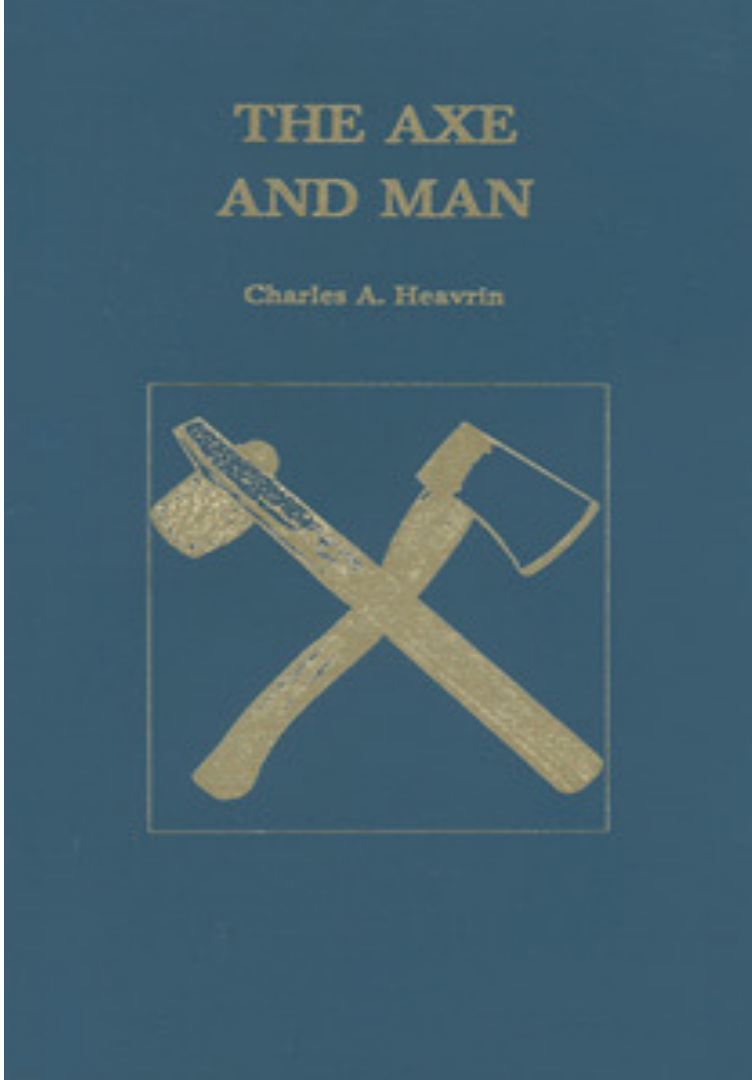
Economic
- state of the economy
- shift in focus on where to spent
- level of disposable income

Technology
- state-of-the-art technology
- emerging technology
- re-evaluating existing techn.

Social
- social and cultural trends and drivers
- reviving historical trends

source: Cagan & Vogel


FISKARS
X11


THE AXE
AND MAN
Charles A. Heavrin

https://m.facebook.com/watch/?v=285724348218210&_rdr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6.
10.
2.
7.
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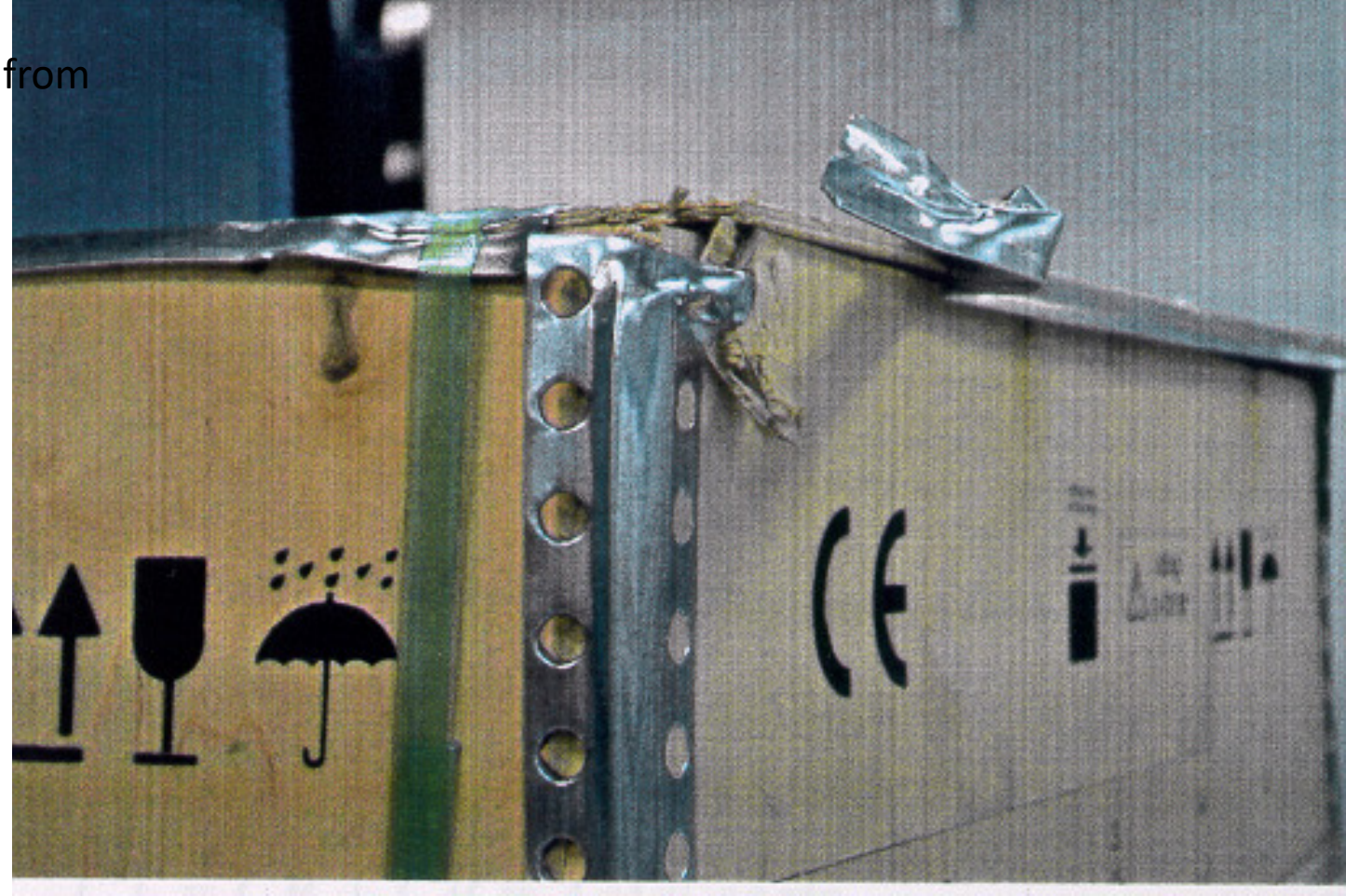
8.

where do ideas come from

where do ideas come from



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Lähde: Manner, Timo

where do ideas come from

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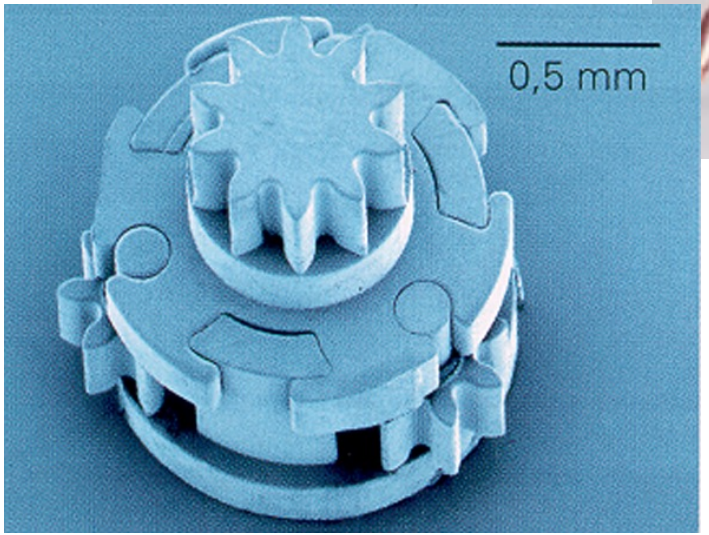

where do ideas come from